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# USSR Report

ECONOMIC AFFAIRS

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# USSR REPORT

## ECONOMIC AFFAIRS

### CONTENTS

#### RESOURCE UTILIZATION AND SUPPLY

Gosplan Official Points Out Resource Conservation Measures (G. Kukushkin; PLANOVOYE KHOZYAYSTVO, No 3, Mar 85) .....	1
Use of Industrial Waste as Secondary Raw Materials Pushed (EKONOMIKA SOVETSKOY UKRAINY, No 4, Apr 85; NARODNOYE KHOZYAYSTVO BELORUSSII, No 3, Mar 85) .....	10
Use of Secondary Resources by V. Selivanovskiy	10
Use of Waste in Belorussia	21
Greater Material Resources Recycling Effort Pressed (IZVESTIYA AKADEMII NAUK SSSR: SERIYA EKONOMICHESKAYA No 3, May-Jun 85, EKONOMIKA SOVETSKOY UKRAINY, No 5, May 85)	27
Use of Recycled Materials by L. L. Zusman	27
Use of Secondary Resources by N. Kalugin, N. Yermoshenko	40
Supply Shortfalls Threaten Intensification Goals (V. Rybin; MATERIALNO-TEKHNIЧЕСКОЕ SNABZHENIYE, No 7, Jul 85) .....	51
New Decree Imposes Sanctions Against Resource Squander (G. Shapkina; KHOZYAYSTVO I PRAVO, No 5, May 85) .....	64

#### REGIONAL DEVELOPMENT

GSSR Gosplan Official on New Regional Planning Approach (Otar Kakauridze; ZARYA VOSTOKA, 18 Jul 85) .....	73
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Greater Role for Local Soviets in Uzbek Economy Advocated (K. Akhmedov; EKONOMIKA I ZHIZN, No 6, Jun 85) .....	77
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GOSPLAN OFFICIAL POINTS OUT RESOURCE CONSERVATION MEASURES

Moscow PLANOVVOYE KHOZYAYSTVO in Russian No 3, Mar 85 pp 64-70

[Article by G. Kukushkin, deputy division chief of the USSR Gosplan: "Planning Efficient Utilization of Natural Resources"]

[Text] Increasing the protection of nature, the land and its minerals, the atmosphere, the bodies of water and the animal and vegetable world were envisioned as one of the most important tasks of the 11th Five-Year Plan.

It is necessary to develop work in this direction because industrial production of vital goods frequently has a negative effect in nature. The supply of natural resources is exhausted, and the soil, water and air are polluted. Planned development of the national economy gives us the opportunity of taking timely and effective measures to protect nature.

More active planning began to serve to improve the protection of nature under the 10th and 11th five-year plans. In 1975-1976 and 1980-1981 two five-year plans were developed, and as of today there are 11 annual plans for the protection of nature. In these a great deal of attention was devoted particularly to protection of the land resources.

In the USSR the overall land area amounts to more than 2.23 billion hectares, but only 27 percent of it is agricultural land and 10 percent of it is plowed. Half of the land is located in nonagricultural zones--tundra, forest tundra, taiga, deserts and semi-arid areas. Much land in the USSR is poor in nutritive substances, acid and saline. In order to obtain large yields the plans envision liming acid soils, applying gypsum to solonchaks soils, and applying fertilizers. With correct use of agricultural land there is every possibility of increasing its fertility and the yields. In Moscow Oblast, for example, during 1956-1960 the farms harvested 9.8 quintals of grain, and in 1976-1980 there was a 2.5-3-fold increase over this. Especially important for increasing the fertility of the soil are antierosion devices: terracing steep slopes, constructing special hydrotechnical structures, planting forest strips, and so forth.

The farms on which field protection forest strips have been created receive additional profit. During arid years the yield of grain profits on them has averaged 26 percent more than on the control areas without such strips.

In 1976-1983 land users implemented a number of new planning measures for increasing the productivity of farmland. On large areas they conducted work for recultivation, preventing salinization and pollution of the soil with toxic chemicals, and so forth. In Kazakhstan, Siberia, the central and lower Volga area, the Ukraine and other regions, in order to prevent erosion of the soil, they extensively introduced agrotechnical soil protection measures which are based on the principles of subsoil tilling of the land. In 1983 this system was applied on 49 million hectares.

During 1976-1980 the state allotted 200 million rubles a year for fighting against erosion processes. During this period they created more than 300,000 hectares of field protection forest strips, constructed 680 million rubles' worth of antierosion hydrotechnical, antiflooding and other structures and they terraced a large number of steep slopes. These measures make it possible to prevent surface runoff of precipitation into underground waters and to prevent destruction of the productive layer of the soil. The plans for the creation of field protection forest strips have been overfulfilled in the Georgian SSR (164 percent), in the Moldavian SSR (122 percent); the plans for the construction of the aforementioned structures--in the Tajik SSR (156 percent); and the plans for terracing--in the Ukrainian SSR (175 percent) and the Uzbek SSR (121 percent), which contributed to weakening the unfavorable influence of weather conditions during these years on the production of agricultural products and to reducing erosion.

In 1981-1985 it is intended to step up work for preventing the effects of erosion processes. They will plant 249,000 hectares of field protection forest strips, more than 47,000 hectares of steep slopes will be terraced, and they will construct 842 million rubles' worth of hydrotechnical, antierosion, antiflooding, anti-landslide, shore reinforcement and other structures. The creation of new field protection forest strips and structures is being planned in those regions of the USSR where they are not yet prohibited and also along ravines, gullies, riverbanks, bodies of water, sandy areas and other land that is unsuitable for agriculture.

Under the 11th Five-Year Plan indicators were introduced for protecting population points, land and other objects from floods, landslides, avalanches and cave-ins. In Central Asia, the Caucasus, the Ukraine and a number of regions of the RSFSR these phenomena are causing a great deal of harm to the national economy. Therefore planning the aforementioned protective work will make it possible to considerably reduce the manifestation of these negative natural processes in the land areas of the country.

Under the current five-year plan agencies of the USSR Ministry of Agriculture, the USSR Ministry of Land Reclamation and Water Management, the USSR Ministry of the Timber Industry, the USSR Ministry of Power and Electrification and other interested ministries, departments and councils of ministers of union republics, when developing plans for land reclamation and fuel balances, are envisioning measures that provide for maintaining the water protection functions of marshes and habitation places in them of valuable kinds of animals and places where medicinal and other plants grow. Measures have been earmarked for preserving peat bogs for the needs of agriculture, reducing and

in the future eliminating the burning of peat, and changing electric stations over to other kinds of fuel. In the European part of the USSR (Moscow, Kalinin, Smolyensk, Bryansk, Khirov, Kostroma, Gorkiy, Vologda, Vladimir, Leningrad and other oblasts) a number of GRES's and TETs's are being changed over from peat to gas, fuel oil and coal.

The decisions of the 26th CPSU Congress point out the need to step up work for protecting agricultural land. Correct utilization of agricultural land makes it possible to increase the area of plowed land, perennial plantings and improved hayfields and pastures in the country. Thus during 3 years of the 11th Five-Year Plan the area of plowed land on all categories of farms in the country increased by 377,000 hectares, irrigated land--by 1,659,000 hectares, and drained land--by 1,214,000 hectares.

There has also been a reduction of the use of the land of kolkhozes and sovkhoses for nonagricultural needs. While in 1971-1975 it amounted to an average of 460,000 hectares a year, during 1976-1980 it was approximately 200,000 hectares. Around the cities they have built up mainly land that is unsuitable for agriculture. The USSR Gosplan checks on the correctness of allotting land for new construction.

In planning and construction they also use plans which not only contain proposals for more economical expenditure of capital investments, but also take into account the harm caused to the national economy by the removal of land. But in the local areas they do not always display the proper persistence. Unfortunately, under the 10th Five-Year Plan there was a reduction of the agricultural area in the RSFSR, the Belorussian SSR, the Ukrainian SSR and several other republics.

In the process of extracting mineral raw material and conducting construction and other work, considerable areas of fruitful land are taken out of production.

Since 1976 we have been applying recultivation (restoration) of land more extensively. On 2 June 1976 the USSR Council of Ministers adopted the decree, "On Recultivation of Land, Protection and Efficient Utilization of the Productive Layer of Soil When Developing Deposits of Useful Minerals and Peat, and Conducting Geological Prospecting, Construction and Other Work." It solves a number of important problems, including financing of recultivation measures; an addition has been introduced which makes it incumbent on enterprises that disturb the surface of the land to remove, store and protect the productive layer of soil and then use it to restore the land or to improve sections that are less fertile (sandy and other kinds).

Before the development of special plans the rates of this kind of work were low. During all the years that preceded the 10th Five-Year Plan only 200,000 hectares of land were recultivated. The establishment of assignments accelerated this work. During the 10th Five-Year Plan 545,000 hectares of disturbed land were restored. Land is being actively restored by enterprises of the USSR Ministry of the Coal Industry, Ministry of the Gas Industry and Ministry of the Petroleum Industry, and the councils of ministers of the Ukrainian SSR, the Lithuanian SSR, the Moldavian SSR and the Latvian SSR.



Recultivation is planned in terms of the various kinds: how much land will be restored for agriculture, for the creation of forest plantings and so forth? Recultivated land is also used for collective gardens, parks, ponds, reservoirs and beaches.

According to calculations of the ministries and departments of the USSR and the councils of ministers of the union republics, under the 11th Five-Year Plan it is intended to restore about 670,000 hectares. First there will be restoration of land that is disturbed from extracting peat, with a time period of no more than 5 years for recouping expenditures, and also land that was earmarked during the inventory of 1979 as suitable for being put to use.

The fertility of the land is also reduced by such phenomena as flooding, marshing, pollution and drying of the land as a result of the hydroelectric energy and other construction, the operation of certain kinds of transportation, and the activity of mining, chemical and several other kinds of enterprises. Some of the land in the Azerbaijan SSR and the Tatar SSR is polluted with petroleum. In order to provide for planning of the work for protection of the land, indicators have been introduced for preventing pollution of the soil with wastewaters, petroleum products, discharges from enterprises and so forth. Work is being done to discover such land and to search ways of improving it.

In order to retain in the soil the useful microflora which provide for mineralization of organic substances and six nutritive elements, and in order to reduce the application of harmful pesticides (toxic chemicals), the plans envision applying biological measures to protect plants from pests and diseases. Such assignments are being established for the USSR Ministry of Agriculture and the councils of ministers of the union republics. The biological method was applied in 1980 in farming on an area of 24.7 million hectares. In the RSFSR, the Ukrainian SSR, the Tajik SSR and other republics they have created special laboratories for producing biological means of protecting crop plants. Expansion of the utilization of these means will make it possible to reduce the application of pesticides and to prevent pollution of land, water and other areas, and also the products that are obtained from them.

The plans envision measures for protection and economical expenditure of timber resources. In spite of the ever-increasing application of artificial materials in the national economy, timber is still being extensively utilized. It has been calculated that in the future the world consumption of timber will increase 1.8-2-fold.

At the same time the sanitary and hygienic significance of forests is increasing. The climate protection, water protection, aesthetic and other useful functions of the forests are also known. But forests are not distributed uniformly throughout the USSR. Three-fourths of them are located in the taiga zone. Therefore it is important to utilize timber resources economically.

In recent years planned work has been done in the country for shifting the base of timber procurements to the heavily forested regions of Siberia and the

Far East, which makes it possible to utilize the timber-felling supply more efficiently.

But the level of forestry work does not always correspond to the modern tasks of development of the national economy. At a number of enterprises, because of the imperfection of the production and consumption of timber materials, the supplies of timber are far from being fully utilized and the losses are significant. In many places, because of the shortage of production capacities for processing, deciduous varieties of trees are not sufficiently used, which leads to overfellings of coniferous varieties. Therefore it is becoming increasingly crucial to reach a point where each enterprise, organization, construction site, kolkhoz and sovkhoz actively fights against losses of timber, and protects the forests from overfellings, fires, excessive grazing of livestock, pollution of the forest soil and atmosphere, and they should also protect the forest areas from pests and diseases. It is necessary to utilize deciduous trees more extensively in the national economy: it is possible to produce containers from them, to use them in construction, and so forth.

In the forest regions there is much land that requires afforestation: felled areas, burned areas and so forth. In the plans a great deal of attention is devoted to improving the felling of trees and increasing their productivity, eliminating conventional indiscriminate felling of all the trees, conducting forest restoration work by planting trees and taking preventive measure to improve the sanitary condition of the forests.

The utilization of aircraft to protect forests from fires is being expanded. At the present time there are about 20 aviation fire protection bases functioning in the country. They have organized the interaction of earth and air means of protection of forests and reindeer pastures from fire. It is planned to apply biological measures for fighting against pests of the forests, including the utilization of minerals, entomophages, and preparations made from microorganisms and viruses.

In forestry it is intended to change over to principles of continuous efficient utilization of timber. During 1981-1985 young trees of valuable varieties will be grown on an area of more than 8 million hectares. It is intended to introduce industrial methods of timber raising and to build up existing green zones around cities and to create new ones. In order to strengthen the fee base for sheep raising more trees will be planted near pastures in the semidesert regions of Central Asia and Kazakhstan.

During the course of industrial assimilation of the new regions the need for the formation of various kinds of natural protection territories increased: game reserves; national natural parks; dendrological and botanical gardens; and preserves.

During 1976-1980 significant measures were taken for strengthening game preserve work in the country, especially for creating a network of game preserves and other protected territories which represent the main natural and geographical regions.

Under the 10th Five-Year Plan it was intended to create 28 preserves in various zones (as compared to 17 in 1971-1975). Actually 30 of them were organized, including: the first maritime preserve in the Gulf of Peter the Great (Japan Sea); the Taymyrskiy Preserve which is the largest on tundra area in the USSR; the preserve on Vrangeli Island for protecting the white bear, the walrus and the nesting area of the white goose. In keeping with international agreements during this same period we organized seven biospheric preserves of worldwide significance. Under the 11th Five-Year Plan we continued to improve this work.

It is intended to organize new preserves, mainly in zones where they do not yet exist, including in the RSFSR, Kazakhstan, the Ukraine, Kirghizia, Turkmenia and so forth.

In 1981 standard provisions were approved for all kinds of protected territories.

In that same year the law of the USSR and the union republics, "On Protection and Utilization of the Animal World," went into effect. This makes it incumbent on utilizers of the animal world to conduct measures to restore the animals. In this connection in the plans there will be a large volume of work for implementing biotechnical measures under the 11th Five-Year Plan.

Basic attention was directed toward restoring the number of wild animals to the level which allows economic utilization of them. We have also restored limits which existed in the past for the disappearance of rare breeds such as the saiga, sable, beaver and others. Spotted reindeer, tigers, muskrats, bison, and onager have increased to numbers that guarantee their preservation as biological species. The hunting of approximately 20 species of mammals and 29 species of birds has been completely prohibited.

Industrial reproduction of fish has been organized in order to augment fish stocks. There are more than 150 fisheries and acclimatization stations in operation in the country. Each year they produce up to 1 billion young and larvae of sturgeon, salmon, whitefish and other valuable breeds of fish. All these measures are directed toward active improvement of the condition of the flora and fauna in our country.

One should also discuss the mineral resources, or the useful resources that are distinguished from resources of animal and vegetable origin by the fact that after they have been drawn into the sphere of man's activity they practically cannot be restored, that is, they are included in the category of nonrenewable resources.

Since all of the deposits of minerals are comprehensive, that is, they contain copper, lead, zinc, gold, nickel, silver and so forth, this requires their comprehensive utilization in order to satisfy the growing needs of the national economy for mineral raw material.

Certain successes have been achieved in the comprehensive utilization of mineral raw material in recent years. At the Ust-Kamenogorsk Lead and Zinc Combine imeni Lenin from ore containing 15 valuable components they extract



13; at the Verkhnedneprovsk and Balkhash imeni 50-Letiye Oktyabr'skoy Revolyutsii Mining and Metallurgical Combine these figures are, respectively: from seven elements six are extracted and from 14 elements--12 are extracted. With the introduction of progressive systems for working deposits and the application of better equipment at a number of mining enterprises there has been a higher degree of extraction of minerals from the earth and when processing them as well. But still comprehensive assimilation of deposits remains a complicated technical-economic and administrative problem. Kinds of raw material with many components are not included within the framework of a single branch, and each time when solving problems of the utilization of composite ores there arise the questions: who should extract the secondary components, who should assimilate this deposit? Narrow departmental interests frequently prevail here and the needs of the economy as a whole are not sufficiently taken into account.

Since 1976 the USSR Gosplan, as part of the annual and long-range national economic plans for mining and extracting ministries, has been establishing indicators for increasing the degree of extraction and comprehensive utilization of minerals. In 1980 an interdepartmental commission was created for comprehensive utilization of minerals under the USSR Gosplan. Judging from the results, its work will make it possible to improve interbranch coordination of issues of the comprehensive utilization of minerals and to increase the role of planning.

Under the 11th Five-Year Plan it is intended to create interbranch industrial mining complexes whose task will include the organization of waste-free production. The Basic Directions for the Economic and Social Development of the USSR During 1981-1985 and the Period Up to 1990, in the area of protection of the earth and efficient utilization of mineral resources, envisions providing for effectively drawing into economic circulation the fuel-energy and mineral-raw material resources of the eastern and northern regions; continuing work for utilization of secondary fuel-energy resources and byproducts; and providing for the creation and extensive application of technical means and technologies for comprehensive and more complete extraction of mineral components from ores and working poor ores and difficult deposits.

Planned implementation of these tasks will make it possible:

to assimilate more comprehensively the deposits of minerals without allowing losses of them during extraction and processing;

to apply more extensively comprehensive processing of raw material, reduced-waste and waste-free technologies, and to utilize resource-saving technical equipment; to bring local kinds of raw and processed materials comprehensively into circulation; to salvage secondary resources;

to increase capacities for comprehensive processing of petroleum and natural gases;

to develop the extraction of coal by the more effective, open-pit method at more rapid rates;



to increase the extraction of components from the ore that has been extracted; to increase the content of iron, manganese and chrome in the concentrates; to assimilate on an industrial scale the technology for enriching and nodulizing oxidized ferrous quartzites;

to develop capacities for producing porous fillers using ash and slag from thermoelectric power stations, metallurgical and phosphorus slags, and wastes from ore-enriching branches of industry and coal-enriching factories;

to expand heating using thermal wastes of industrial enterprises and heated water.

The implementation of the aforementioned measures will contribute to improving the protection of the natural resources and to efficient and comprehensive utilization of mineral resources.

The establishing of planning assignments and increased monitoring of the condition of natural resources on the part of USSR ministries and departments that are especially authorized for this and the increased expenditures on the implementation of environmental protection measures have already produced appreciable positive results. The pollution of the air basin has decreased or stabilized around a number of large cities of the country and the condition of the water sources has improved in a number of regions (the Volga, Ural, Moscow and Dnepr rivers, the Lake Baykal Basin and others). Through intensive development, the plan for 1984 for the system of recycled and repeated utilization of water envisions reducing the intake of fresh water by 11 billion cubic meters, which is approximately equal to the average annual flow of the Ural River. At many enterprises this year it is intended to curtail discharging wastewaters that have not been purified and decontaminated into the sources of water, and it is intended to conduct on a large scale water protection and air protection construction in the basins of the Black, Asov, Baltic, Caspian and other seas, large lakes and rivers, and to introduce more progressive waste-free systems of water utilization.

Assignments have been set for the ministries and departments of the USSR and the councils of ministers of the union republic for purification and removal of harmful substances from stationary sources of pollution of the air. With state capital investments in 1981-1985 it is intended to construction and put into operation installations for purification of wastewaters with an overall capacity of 38 million cubic meters a day and installations for removing and rendering harmless the harmful substances from exhaust gases (250 million cubic meters of gas per hour).

In 1984 2 billion rubles (in prices as of 1 January 1984) in state capital investments are being used to support measures for environmental protection and efficient utilization of natural resources. Additionally, significant funds allotted for these purposes are being used for capital repair and these are also being financed from state budget allocations. For example, 0.9 billion rubles were allotted from the state budget in 1984 for protection and efficient utilization of timber resources. All this will make it possible to considerably improve the environment and the utilization of natural resources.

It is very important for the ministries, departments, enterprises and organizations that utilize natural resources to feel a constant responsibility for their thrifty and efficient utilization, to introduce reduced-waste and waste-free technologies and productions, and not to allow pollution of the environment.

Only strict accounting for and observance of the closest interconnections that exist in nature will make it possible for the people to utilize nature to provide the necessary ecological situation in all regions of the country and obtain the opportunity to supply themselves with the necessary reserves of natural resources and leave some for future generations.

At the present time the scope of environmental activities still has not reached the level which provides the necessary condition of the natural environment in all regions of the country. Considerable quantities of harmful substances are being discharged into the air of a number of cities and the level of purity of some of the bodies of water does not correspond to the normative requirements.

At the December (1983) Plenum of the CPSU Central Committee it was especially noted that the modern scope of the development of productive forces requires changes in our attitude toward questions related to environmental protection and efficient utilization of natural resources and that this is a task of great economic and social significance since we are speaking essentially about the health of the people and an economical approach to the country's national wealth. The conditions in which future generations of Soviet people will live depend on the solutions to these problems.

At the aforementioned plenum it was also emphasized that, in spite of the serious efforts that are being undertaken, the problem is still crucial and that a departmental approach is intolerable here. This sharply reduces the effectiveness of the utilization of capital investments, impedes conducting a unified policy in the implementation of environmental protection measures, gives rise to a lack of responsibility for the ecological consequences of decisions that are made, and leads to a false savings which frequently ends up in large losses.

This important party instruction dictates the need to search for effective new ways of controlling this process and changing over to the construction of a unified state system of management of the utilization of nature.

Protecting our country's natural environment is an indispensable part of the CPSU program for improving the well-being of the Soviet people.

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USE OF INDUSTRIAL WASTE AS SECONDARY RAW MATERIALS PUSHED

Use of Secondary Resources

Kiev EKONOMIKA SOVETSKOY UKRAINY in Russian No 4, Apr 85 pp 15-24

[Article by V. Selivanovskiy, UkSSR Gosplan department head]

[Text] This is the fifth year in which the republic's state plan for economic and social development and the plans of ministries, enterprises, oblasts, cities and rayons have included assignments on the procurement and processing of secondary raw materials, the utilization of waste and industrial byproducts and the production of industrial and technical or consumer goods on their basis (or with their help). Such planning applies to 48 ministries and departments, some 30 associations and enterprises under union jurisdiction and oblast and city executive committees, i.e., virtually all sectors in which more or less substantial waste accumulates or could be utilized.

Such planning covers 85 basic types of residual products of the production process, above all in the heavy, food and light industries, as well as consumer waste, such as paper, secondary textile products, worn tires, broken glass, etc.

The formulation of planned assignments, their technological and organizational support and control over the fulfillment of plans are becoming ordinary functions of planning bodies on all levels, from Gosplan to enterprise. The local planning bodies have become involved in such activities more actively. Planning is based on the methodical materials and plan forms drafted by the USSR Gosplan and UkSSR Gosplan. With a view to streamlining work involving secondary resources, the republic's government approved a standard "Procedure for the Collection, Sale and Utilization of Secondary Raw Materials in the National Economy of the Ukrainian SSR." The volumes of accumulating waste and industrial byproducts have been estimated and the share of such resources which could be used in national economic sectors refined. Ministries and departments have drafted sectorial guides on the procedure for recording and utilizing waste products, the functions of subunits and officials responsible for such work and the organization of collecting, sorting, storing and shipping secondary raw materials.

The use of secondary resources is increasing. During the first 4 years of the five-year plan deliveries to agriculture of chemical and other enterprise waste used in soil improvement and in liming acid soils almost doubled and deliveries to claydite-manufacturing plants of bentonite from stripped rock have more than doubled. The rate of utilization of traditionally used waste increased as well, as follows: thermoelectric power plant ash slag, 13.4 percent; metallurgical slag, nearly 10 percent; rock, 18 percent; iron-containing waste, 14 percent; and timber waste, nearly 22 percent. Waste paper procurements have increased by 20 percent.

In industry secondary raw materials are used as substitutes for primary raw and other materials. In 1984 secondary raw materials were used instead of nearly 1.6 billion rubles' worth of primary raw materials (excluding metal scrap procured by Vtorchermet). In terms of absolute figures the substitution of many types of raw materials has reached impressive amounts. In particular, iron-containing waste helped save 6.5 million tons of sintering blends, 5 million cubic meters of timber were replaced with timber and paper waste, and the use of granite slag and other additives helped save in excess of 12 million tons of cement raw materials. The manufacturing of gravel from metallurgical slag and stripped rock enables us to save more than 30 million tons of natural raw materials annually. The use of coal concentration waste in the construction materials industry and the use of heat generated by various types of waste saves 700,000 tons of standard fuel.

The use of secondary raw materials has several economic consequences. First of all, it costs 700 million rubles, i.e., it is lesser than the cost of the prime raw material by 900 million rubles, which means that production costs will be lowered by that same amount. Secondly, the capital investments needed for obtaining the secondary raw material from waste are, as a rule lower by a factor of 1.5-2 compared with those necessary for obtaining natural raw materials. Annual savings from this item are estimated at 20-30 million rubles. Thirdly, increasing the amount of secondary raw materials by 12-15 million rubles (per year) lowers the cost of shipping the waste, and its storing and the building of storage facilities.

Bearing in mind that the value of a hectare of land used under storage facilities ranges between 6,000 and 8,000 rubles and that every year an additional 5,000 to 6,000 hectares of such land are taken for such use, losses from this item reach between 35 and 45 million rubles. In this case the value assessment of the losses is incomplete, for it cannot reflect the irreplaceable damage caused agricultural or other underproduction.

Finally, it is difficult to assess the environmental protection effect of the utilization of production and consumption waste in terms of value indicators. We must not forget that a huge amount of residual products is formed every year--1.5 billion tons--the very existence of which disturbs the ecological balance.

The utilization of secondary resources is increasing not only in absolute figures but in its share and level of resource utilization (in terms of volume). For example, the use of secondary raw materials in the percentage of materials used in cement production has reached the 35 percent level (and



could be raised by other 5-6 percent with the successful completion of the plan for upgrading the quality of the slag, the production of the crystallizing component (crent) and the use of other additives). In the cardboard and paper industry the share of waste paper and textile materials used as raw materials increased by more than one third during the five-year plan, currently exceeding 50 percent. It will reach 60 percent in the immediate future. The share of secondary resources in industrial raw materials is substantial in steel smelting (33-35 percent), glass containers (up to 35-40 percent) and goods made of timber, non-mineral and molding materials and porous fillers. As a whole, the share of secondary resources in the overall volume of resources used in the UkSSR has accounted for 11.7 percent and will continue to grow as a result of the availability of significant reserves for increasing their use.

The level of utilization (by the enterprises themselves or in the same or another sector) is one of the criteria of work with waste materials. This level is quite high in a number of sectors: it has reached 92-94 percent for timber waste at the UkSSR ministries of the timber and wood processing industry and the forestry industry; almost 78 percent for blast furnace slag by the UkSSR Ministry of Ferrous Metallurgy; 80-100 percent for most types of waste by the UkSSR Ministry of the Food Industry; and 7--90 percent by the UkSSR Ministry of Light Industry.

The fact that the main timber processing enterprises have reached levels close to wasteless production and closed cycles of resource utilization is based on concern for the conservation of the republic's limited timber resources, and the high capital intensiveness and high costs of output from the northern rayons. The UkSSR Gosplan and the respective ministries directed the enterprises in timber processing sectors to the production of new types of construction materials, such as pressed wood and fiberwood tiles and carpentry items which can be made of timber waste and processed wood. A total of 1.1 million cubic meters of DSP [pressed wood tiles] and 21 million square meters of DVP [fiberwood tiles] as well as 1,780,000 square meters of door pannels using wood shavings as filler, 263,000 square meters of flooring pannels made of pressed wood waste, 22,000 cubic meters of parquet moulding and 432,000 cubic meters of processed chips for hydrolysis and other uses were produced in 1984. The enterprises of the UkSSR ministries of timber and wood processing industries and of the forestry industry organized the production of wood and conifer-vitamin meal, pressed goods, terpentine, resin, tar and charcoal. This proves the desire of the ministry and enterprise personnel to find a practical solution to the problem of utilizing waste. Intersectorial timber procurement for the production of hydrolysed fodder yeast have been organized.

The high level reached in the processing of blast furnace slag at metallurgical plants is related to certain sectorial interests. As a rule, granulation systems are located closer to the blast furnaces compared to dumps, and slag shipments to them require lesser forces and facilities than shipments to dump sites.

Most waste generated in the food industry sectors, which is less expensive, (compared with primary products) for use as feeds and raw materials, has been traditionally used. The thrifty and concerned attitude shown toward such

reserves in the agroindustrial complex increases the feed balance as a result of the full use of husks, apple and grape marc and grain and potato processing waste. Waste generated by the oil extraction industry (soap stock, shells) is fully used. The production of sugar-containing powder made of apple marc is being developed, cosmetic and pharmaceutical oils are extracted from fruit pits and seeds and feed yeast and Vitamin B12 are produced from sunflower seed husks and yeast mash. Milk and meat processing are coming increasingly closer to the level of a wasteless technology. Food and industrial products are being obtained from the considerable waste exceeding 2.7 million tons generated at meat and dairy industry enterprises.

The organizations engaged in the procurement and primary processing of secondary raw materials, such as scrap, broken glass, worn rubber tires, etc., are working stably. The main indicators in their work reflect their efforts aimed at increasing procurement volumes and finding additional secondary raw material reserves, some varieties of which are getting scarce. Thus, by 1985 the republic will be short of waste paper which will have to be imported from elsewhere.

A considerable percentage of waste, bulk waste above all (ash and slag generated at thermoelectric power plants, metallurgical slag, coal concentration waste and waste generated by chemical enterprises) is unusable by the industry which generated it (or which can use no more than part of it). It is generated in large quantities by a limited number of enterprises, and is used in other sectors, as a rule after processing, i.e., after it has been converted into the type of raw materials needed by consumers. Procurement possibilities in these sectors are sufficiently reliable and could essentially be organized on the basis of direct long-term economic relations. In frequent cases, sectorial standards and production technologies do not require preparing such waste for utilization although this requires certain outlays. The production of secondary raw materials or goods made of waste is not included among the most important indicators and is not particularly profitable yet requires some efforts. That is why some sectors are slow and reluctant to increase utilization capacities, citing insufficient capital investments, equipment and manpower. It becomes necessary to surmount departmental barriers with the help of administrative documents and by including in the state plan assignments on the utilization of secondary resources. However, the implementation of such assignments is not taken into consideration in setting up incentive funds or summing up results of the work and the socialist competition.

A number of shortcomings exist in the organization of the use of secondary resources, due to the imperfection of the system and, in some cases, the unwillingness or inability to apply tried methods. For example, in 1983 the UKSSR Ministry of Construction Materials enterprises used no more than 381,000 of the 1.1 million tons of cinder slag planned. The production of dry ash and its use in cement plants is particularly poorly organized. Bearing in mind the amount of energy saved with the use of this raw material, we must sum up available experience and conclusions based on theoretical work done in this field, determine the optimal amount of this additive to be used and organize, with the help of the simplest possible means, ash deliveries.

The Donetsk Industrial Construction Design Scientific Research Institute, and the Kiev and Dnepropetrovsk engineering and construction institutes have drafted more than 50 standard-technical projects, most of which have been successfully applied at the construction industry plants of the USSR Ministry of Power and Electrification and some enterprises of the UkSSR ministries of industrial and rural construction. This has made possible to replace large quantities of natural fillers and to save on cement (in frequent cases from 10 to 25 percent). However the use of cinder slag by the republic's construction ministries and departments is below capacity by a factor of 4-5; despite a low annual assignment (15,000 tons), the UkSSR Ministry of Land Reclamation and Water Resources has not organized the use of cinder slag at all.

At most of its thermoelectric power plants, the UkSSR Ministry of Power and Electrification has failed to ensure the separation and grading of cinder slag and to mix it in accordance with consumer requirements. So far, dry cinders only are available in sufficient quantities. However, the adequate number of special freight cars has not been allocated for their transportation. After the problem of transportation has been solved, the problem of scarcity of this raw material as well will arise and capacities for its production will have to be increased.

Here is another example. The kolkhoz and interkolkhoz enterprises of the Ukrainian Interkolkhoz Construction Administration produce up to 2.5 billion regular-size bricks annually, and could use 700,000-800,000 tons of coal concentration waste as supplement alone. In fact, they use no more than 120,000 tons. Naturally a certain amount of organizational work is necessary to ship such waste to low-capacity plants, or plants distant from railroad stations. Bearing in mind the limited resources and low grade of the raw material, the use of this additive at the plants, which provides a 20-percent fuel saving and substantially improves the quality of the bricks, is unavoidable. The agroindustrial enterprises, on whose territory huge piles of coal concentration waste accumulate, could establish low-capacity plants for the production of 6-10 million regular-size bricks on the basis of this inexpensive fuel-containing raw material. It would be expedient to draft a standard design of such a plant. The necessary profitability could be ensured on the basis of the latest achievements in the areas of technology, mechanization and automation and the use of inexpensive raw material and fuel. Estimates have indicated that the overall amount of coal concentration waste which could be used could total 5.5-6 million tons. This would require the concentration factories of the UkSSR Ministry of the Coal Industry and the coke-chemical plants of the UkSSR Ministry of Ferrous Metallurgy to increase the procurement of coal concentration waste processed for industrial use. However, the drying of waste with the help of the fuel residue or excess coke gas it contains (or its dehydration by other means) remains virtually unorganized. Mechanized shipment facilities which could ensure regular deliveries of this raw material without necessitating expensive mining equipment (excavators, etc.) are not being installed. The UkSSR Ministry of Ferrous Metallurgy and the UkSSR Ministry of the Coal Industry systematically fail to implement plans for shipping such waste. The Main Ukrainian Coal Administration of the UkSSR Gossnab is insufficiently persistent in organizing such procurements.



The metallurgical slag and some other waste products of UkSSR Ministry of Ferrous Metallurgy enterprises remain chronically underutilized, and so are capacities of systems for the production of granulated slag. Every year more than 3 million tons of fluid slag is dumped. The quality of the slag pumice remains extremely low. Progressive technologies for the utilization of steel smelting slags, particularly as a recycled metallurgical product, are being applied too slowly. Slag is frequently mixed with garbage and irretrievably lost. The UkSSR Ministry of Ferrous Metallurgy also fails to implement other important assignments on the treatment, storage, shipment and utilization of production waste. Neither the ministry nor its enterprises have an efficient system for controlling the planning and organizing the utilization of waste. Here is an example: To cement plants, granulated slag, which accounts for 25-40 percent of the bulk of cement produced, is the type of raw material the properties of which determine the quality of the cement and the cost of production, for which reason it can be considered with full justification a basic production item. Yet, since 1983 the Azovstal Combine has been dragging the installation of even the simplest possible system for upgrading the quality of granulated slag and slag pumice.

Omissions in the use of secondary raw materials may be found at the UkSSR Ministry of Highway Construction and Maintenance as well. Rubber crumbs (from industrial waste and worn out tires), used in upgrading the quality and longevity of road lining, are used here in insignificant amounts. Possibilities of replacing the phosphogypsum with other binders in laying the foundations of roads are being insufficiently energetically studied and the amount of utilization of ash slag and other waste is increasing too slowly.

The UkSSR Ministry of Housing and Municipal Services has undertaken the construction of garbage burning plants. This will enable it, albeit partially, to resolve the problem of utilizing solid consumer waste. However, the technology for garbage treatment used at these plants does not call for the pre-combustion extraction of the accessible share of waste paper and polymers; scrap and ferrous and nonferrous metal waste are collected after the burning, when the tin in cans has already been lost and the quality of the scrap worsened. A conversion to a technology for comprehensive processing of such waste is necessary.

Many similar examples in other economic sectors may be cited.

The initiated preparations for the 27th CPSU Congress call for concentrating all the efforts of the planning agencies on finding new possibilities of saving in order to ensure the fastest possible solution of the main task set by the party in the economic area: completing the conversion of the development of the national economy to the track of intensification in the 1980s.

The study made in the main sectors indicates that increasing the volume of utilization of secondary raw materials is a major reserve in economizing on material and raw material resources. The view is frequently expressed that said process could be accelerated with the creation of an improved economic mechanism for its management, above all upgrading economic incentive, improving material incentive in particular. Unquestionably, operations

involving secondary resources, which have become extensively developed at enterprises in recent years only, are by no means always included in economic management rules formulated much earlier. Furthermore, the processes used in obtaining and using secondary resources in the various sectors are quite heterogeneous and the creation of a procedure which would equally meet the requirements of all sectors is a lengthy and complex matter.

However, the specific study of the problems related to the development of this line of thrift in the individual sectors indicates that better results could be achieved by each ministry, association or enterprise with the help of planning, economic and organizational means borrowed from the existing arsenal. We shall cite several examples. By virtue of a number of reasons, shortages of construction materials, such as gravel, sand, lime and lightweight fillers, are increasing in the republic. Adequate reserves of such materials are available, but a substantial share of such deposits are under productive land or in industrially or residentially developed areas. Furthermore, the building of new extraction enterprises requires significant capital investments (up to 16 rubles per cubic meter), expensive equipment, motor vehicle roads, railroad spurs and power transmission cables. The scarcity is worsened also by the fact that the blast furnace slag dumps, which yield more than 7 million tons of gravel annually, are nearing exhaustion. The solution to such a developing situation is the more extensive use of secondary resources which, furthermore, requires significantly lesser outlays. In the production of concrete and reinforced concrete structures, 3-4 million cubic meters of gravel could be replaced with ash slag waste generated by thermoelectric power plants. No less than 20-50 percent of the content of such mixtures could be used as concrete fillers. Presently, only a minor percentage of the slag generated at thermoelectric power plants (no more than 350,000 tons) is used in the production of panel ceramics. The bulk is ineffectively used for dike lining, roads, etc. The enterprises of the UkSSR Ministry of Power and Electrification are not ensuring the stable and even composition of the mixtures they ship out, for which reason they are unsuitable for concrete manufacturing. Not all power plants separate the ash from the slag. The cost of such separation is 2-3 rubles per ton. In other words, outlays for the production of mixtures which can replace gravel are lower by a 3-4 factor compared to gravel production through conventional methods.

As much as 1 million tons of natural fillers and 150,000-200,000 tons of cement could be replaced with dry ash additives (based on 100-150 kilograms per cubic meter of concrete) and ash obtained from the separation of the ash from the slag. The only hitch is the organization of deliveries of such waste as secondary raw material which meets the requirements of consumers. However, the UkSSR Ministry of Power and Electrification's procurements of such items remain quite insignificant.

In order to increase the percentage of slag in the waste of electric power plants, some of the ash must be shipped in fused condition and granulated. The ash most suitable for such treatment is one with high residual carbon content, generated at the Voroshilovgrad and several other GRES. Their heat generating capacity is adequate for the production of the melt without disturbing the overall heat balance (in a special converter or directly in the

furnace). A lightweight filler known as "azerit," with characteristics superior to all other fillers, was obtained from a melt processed in an experimental system. The installation of an experimental-industrial system has been undertaken. Such systems could be built at other GRES as well, at the time of their reconstruction or capital repairs of their boilers. Cost increases are insignificant in this case, amounting to 2-3 rubles per cubic meter, compared to capital investments of 15-20 rubles per cubic meter for the installation of lines of equal capacity for the production of claydite. Furthermore, claydite production requires 110-120 kilograms of standard fuel per cubic meter, whereas the product based on melted ash requires no additional fuel expenditures.

The studies conducted by the UkSSR Academy of Sciences Material Problems Studies Institute indicate that with a proper system for cooling liquidblast furnace slag the latter can yield high-grade raw material for the production of a clinker-free binder and lightweight high-quality fillers. The scarcity of low-grade binders and lightweight fillers can be entirely eliminated simply by processing the slag currently dumped, with the help of this technology. The cost of the development and installation of technologies which make this process possible does not exceed that of ordinary granulation systems. The successful completion of such experimental projects may make the creation of small granulation systems set up near the furnaces possible, thus easing the separation of blast furnace slags and sharply reducing its cost.

Substantial savings in coke can be achieved by using liquefied blast furnace slag in cities in which plants engaged in the production of mineral insulation materials are located in the vicinity of metallurgical enterprises (Zaporozhe, Zhdanov, Yenakiyevo, Donetsk). Slag is used in this fashion at the Krivoy Rog and Zhdanov metallurgical combines.

The availability of gravel can be substantially improved (by 1.5-2 million cubic meters) with the hydrothermal stabilization of steel smelting slags at metallurgical plants, thus preventing silicate breakdown. The use of the 55 million tons of steel smelting slags piled in the dumps is a major source. We must complete initiated scientific research and experimental projects on the use of such slags in cement production, the construction industry and road and industrial construction.

No more than 8 million of the 25-30 million cubic meters of rock from strip mining, suitable for gravel production, are being used at the GOK [ore mining and concentration combines] of the UkSSR Ministry of Ferrous Metallurgy. The decision was made to construct a high-capacity grinding and grading plant at the Dnepr GOK with a view to eliminating the scarcity of gravel and bearing in mind that the production of gravel from strip mining rock requires lesser capital investments.

Despite the availability of technical solutions, the departmental approach hinders the utilization of substantial reserves for the production of construction sand (as much as 2.5-3 million tons) from waste resulting from the concentration of iron ore, strip mining rock and waste generated at the Verkhnedneprovsk metallurgical, Nikitovskiy mercury, Irshansk and other



combines, and the organization of the selective extraction and storing of valuable rock components.

The waste from alumina production (hematite) contains over 50 percent iron oxides and 8-10 percent aluminum oxides. It is as though nature itself destined them to replace the increasingly scarce pyrite cinders in cement manufacturing. Between 90,000 and 500,000 tons of the 1.5 million tons of the generated hematites could be used in cement production. Bearing in mind their iron content (similar to strip mined ores), it would be expedient to treat the remaining part as ore extracted virtually cost free, i.e., for the production of agglomerate. Institutes have suggested the use of hematite as agglomerate supplement (up to 1 percent). The experimental-industrial testing of this method should be undertaken. The possibility of natural drying of some of the slime to a level suitable for transportation has been tested at the Nikolayev alumina plant. A special dehydration system is under construction. The slime generated at the Dneprovskiy aluminum plant will be the coolant used in blast furnace slag granulation at the Zaporozhstal Combine, in order to produce high-quality granulated slag for cement. However, the practical implementation of this idea is hindered by the different departmental affiliation of the enterprises participating in this experiment.

Possibilities also exist for the use of the substantial waste generated by chemical industry enterprises. Phosphogypsum is the most promising among them (more than 3 million tons are generated annually). In the future agriculture will be able to use as much as 2 million tons of phosphogypsum as a chemical improvement agent instead of natural gypsum. The cement plants will take another 300,000-400,000 tons, while the balance (after suitable processing) may be used in the production of various construction industry products (partitions, etc.) and as binders in road and other construction projects, the possibility of which has been experimentally confirmed. Unfortunately, the necessary facilities for such a modification of the phosphogypsum were not contemplated in the construction of the expensive facility for phosphogypsum drying at the Khimprom Association in Sumy.

Agriculture is already using 2.3 million tons of lime-sulfur waste. However, the availability of this product is sharply diminishing at the Razdolnoye Sera Association. The shipping facilities developed at the Yavorov production association would have enabled us to compensate for such losses and to produce lime materials at a cost lower by a factor of 8-10 compared with the extraction of natural limestone. In this case as well, however, departmental barriers are the obstacle.

The most efficient use of copperas is obtained by roasting it together with low-grade kaolin, for the production of the so-called crystallization component (crent). Its production is less expensive than that of cement and its addition to the cement (5 percent) increases the latter's strength by 15-25 percent. In other words, 300,000 tons of crent are the equivalent of the production of 1-1.2 million tons of cement. The designing of systems for crent production has been undertaken.

Possibilities exist for improving the collection, regeneration or other types of utilization of used lubrication oils. A significant quantity of used petroleum products in the republic is still dumped, thus causing severe harm to the environment. The time has come for the formulation of programs by the UkSSR State Committee for the Supply of Petroleum Products and the Main Petrochemical Industry Administration which would cover all areas for the utilization of used petroleum products, such as small-size treatment systems set up by primary consumer organizations, centralized systems for lubricant procurements and treatment at machine building enterprises, systems for oil (including motor oil) regeneration at petroleum bases and large plant systems of the type planned for the Kremenchug Petroleum Products Plant. The planned regeneration of lubricants must be closely related to their outlay norms and the organization of the collection of used lubricants and their efficient transportation. Taking into consideration the high cost of lubricants (200-300 rubles per ton or higher), it becomes obvious that treatment and regeneration methods are profitable, particularly at the primary level, where no substantial outlays are required for equipment purchases or the organization of treatment systems.

Let us include in this very partial list of major tasks related to resource conservation the improved utilization of waste, such as lignin and bagasse. The potential features of lignin, such as high caloric value (4,000-4,500 kilocalories per kilogram), adsorption capacity, content of components suitable as fertilizer, the thermoinsulation capacity of the ash, etc., are by no means used fully. The use of lignin would enable us to resolve the following problems: to obtain thermoinsulation mixes for smelting killed steels (replacing scarce and expensive materials), use of rust converters, lacker and dye anticorrosion additives and substitutes for carbon black in industrial rubber manufacturing; neutralization of chloride wastes in titanium production and, mixed with coal concentration waste, use the product to upgrade the quality of cement; increase organic fertilizer resources used in combination with mineral fertilizers and obtain a raw material for the manufacturing of feed yeasts (with waste from the production of furfural).

Production of dried marc must be at least doubled, i.e., its production raised to 3.5-4 million tons, if fodder resources are to be increased in the next few years. This would reduce losses caused by souring. This requires the development of new high efficiency low-energy consumption methods for marc drying or preservation. This, along with many other assignments related to the use of food industry waste, is included in the recommendations of the Council for Assistance to Scientific and Technical Progress of the CP of the Ukraine Central Committee.

The republic has approved regulations on the creation and installation of resource and energy conserving low- and wasteless technologies and the fuller utilization of secondary resources in the national economic sectors, and basic assignments relative to the program for the implementation of the most important scientific and technical measures in the areas of energy conservation and upgrading the efficiency of the utilization of material and raw material resources in the future. This includes assignments on the fuller utilization of the main types of waste and industrial byproducts. The work on the organization of the utilization of secondary resources and production

waste will be reorganized radically and a decisive conversion will be made from the creation of waste storage areas to the development of utilization facilities. The following is planned with a view to improving the scientific and technical preparations for the use of waste: inventorying scientific research, defining priority assignments and concentrating forces and funds for their implementation and naming the head institutes which will coordinate all scientific research by type of secondary resource. Specific measures have been approved ensuring a significant increase in their use as early as the 12th Five-Year Plan, in accordance with the implementation of the CPSU Decree "On Major Shortcomings in the Utilization of Secondary Material Resources in the National Economy." These steps will also substantially influence the entire work on improving the utilization of secondary raw materials and waste.

Local studies should be conducted of methods to improve the organization of the utilization of the waste generated by industrial enterprises located in medium-sized and large cities. For example, the following waste is generated by Kiev's urban economy, industry and construction enterprises:

- Solid residential and urban economy waste: up to 5 million cubic meters;
- Construction waste: up to 250,000 tons;
- Road construction and repairs: up to 15,000-20,000 tons;
- Lumber waste, all kinds: up to 200,000 cubic meters;
- Burnt foundry mixes: 90,000 tons;
- Casting slag: more than 12,000 tons;
- Used petroleum products: more than 5,000 tons;
- Ferrous and nonferrous metal scrap: about 350,000 tons.

All that is used is ferrous and nonferrous metal scrap, some lumber waste and used petroleum products, although the other types of waste as well could be put into economic circulation, including meeting the needs of the urban economy. Furthermore the procurement of usable secondary resources could be increased, such as ash slag from thermoelectric power plants, metallurgical slag and coal concentration waste.

The total amount of the casting slag generated in the city could be put to use for metal extraction and the production of concrete and cinder blocks, thus saving on cement and fillers. Both technologies and equipment for the regeneration of casting sand have been developed, and so have experimental models of crushers for processing dismantled installations and discarded reinforced concrete. The production of reinforced concrete using used cable ropes has been mastered and no technical difficulties exist in processing lumber waste.

The practical solution of said problems requires the development of an "industry" for collecting and processing industrial waste, for the processing of waste at some enterprises is not always efficient and frequently requires intersectorial organization. It is best to assign such production to the local authorities and to organize it on the basis of existing enterprises (such as garbage-burning plants). By expanding its capacity and mastering the use of new technologies, such production facilities would gradually become centers for the comprehensive processing of a significant share of waste for intersectorial use.



The possibility of such a solution is confirmed by the long experience acquired by organizations specialized in the procurement and processing of traditional types of secondary raw materials (ferrous and nonferrous metal scrap, waste paper, textile materials and polymers, glass, etc.). It indicates that relieving the enterprises from waste processing (wherever economically expedient) and the centralized application of such processes substantially enhance public production efficiency.

We believe that the use of such methods in collecting some types of industrial waste generated in large amounts and its conversion into raw and other materials or finished goods is another major reserve for obtaining additional resources for the solution of a number of problems facing the economy of oblasts and cities.

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#### Use of Waste in Belorussia

Minsk NARODNOYE KHOZYAYSTVO BELORUSSII in Russian No 3, Mar 85 pp 12-13

[Text] The CPSU Central Committee Decree "On Serious Shortcomings in the Utilization of Secondary Material Resources in the National Economy" calls for ensuring the comprehensive processing of raw and other materials and the economic utilization of all types of material resources.

What is being done in this respect in our republic, and what are the problems facing economic managers? This was the topic of the talk between journal correspondent K. Kanus and Anatoliy Ivanovich Kishchuk, chief of the BeSSR Gosstab Secondary Resources Utilization Department.

[Question] First of all, Anatoliy Ivanovich, could you tell us what is the situation in the republic today? How effectively are secondary material resources being used? What organizational and technical measures are being taken?

[Answer] Let me begin by citing a few general figures. During the 11th Five-Year Plan the overall output of goods made in our republic with the help of waste and secondary raw materials will reach 3.4 billion rubles, including 650 million rubles' worth of consumer goods. This is the result of a number of effective measures. Starting with 1981, the state plans for the economic and social development of the BeSSR and the plans of ministries, departments, oblasts, cities, rayons, enterprises and construction projects have included a section on "Utilization of Secondary Raw Materials," which stipulates assignments on the procurement and processing of basic types of secondary raw materials, volumes of output involving their use and other indicators. Therefore, the utilization of secondary raw material resources has become a target of centralized planning.

BeSSR ministries and departments, and associations and enterprises under union jurisdiction are drafting their annual balances on the formation and



allocation of industrial waste. Information lists of waste for subsequent allocation, based on the request of consumers who will process it, are printed in mass editions and distributed among republic enterprises. The registration of waste generated at republic enterprises has been completed. Sectorial norms and charts on the collection, marketing and utilization of secondary raw materials have been issued by ministries and departments.

A permanent exhibit on "Utilization of Secondary Material Resources," at which more than 1,000 samples of types of industrial waste and products made from them are displayed, has been organized in Minsk for the dissemination of progressive experience. A republic fair was sponsored in Minsk in 1984, aimed at increasing the volume of sales of unused industrial waste which can be used for repairs and household needs by the population.

Other organizational and practical steps are being taken as well. The BeSSR Gosplan and Gossnab have set up departments for the utilization of secondary material resources. A similar department was established by the BeSSR Ministry of Light Industry; officials in charge of such projects have been appointed by some ministries.

The republic has created considerable capacities for processing secondary raw materials and industrial and residential waste. They include the secondary raw materials processing combine in Borisov, the nonwoven materials combines in Gomel and Bobruysk, the regenerating and gelatin plants in Mogilev, the cellulose and paper combine in Svetlogorsk, the paper and roofing paper combine in Osipovichy and the garbage treatment plant in Minsk. Furthermore, virtually all enterprises have set up shops or sectors for the production of goods from waste.

All of this will enable the republic enterprises to save valuable materials worth 200 million rubles from the use of waste this year. Consumer goods will account for almost 180 million rubles of the total production of goods made of secondary material resources (retail prices).

However, such overall positive results should not be used as a screen to conceal the many major shortcomings which exist in this important area. Ministries, departments, enterprises and organizations are still not actively utilizing waste. The level of organization of the collection, procurement and utilization of many types of secondary raw materials remains low. Poor use is being made of the possibility of lowering material intensiveness and the extensive use of economical shapes and lighter-weight structures, as a result of which a significant percentage of the metal is turned into shavings.

[Question] Is the republic's procurement network meeting the growing needs of the national economy and are all of its unit firmly organized?

[Answer] We must admit that the republic's procurement network is still poorly developed, particularly in the large cities. Thus, whereas for the republic at large there is an average of one reception and procurement center per 13,600 people, the averages are one per 78,000 in Vitebsk, 77,000 in Mogilev, 46,000 in Gomel, 42,000 in Grodno, and 27,000 in Minsk. For the sake of comparison let me point out that the average for the Lithuanian SSR is one

per 5,600 people, and 8,000-10,000 for some CEMA members (GDR, Czechoslovakia, Hungary and Romania). The plans for collecting secondary raw materials from the population are not being fulfilled this 5-year period.

Despite the existence of considerable secondary raw material resources in the urban population, this five-year plan procurements in the cities have remained virtually the same. In the last 4 years only six new centers have been opened in Minsk, three in Grodno and two in Gomel.

The oblast executive committees and the Minsk city executive committee have virtually failed to assign premises for the collection and storing of secondary raw materials in the newly constructed residential buildings and to set aside in the residential districts land for the construction of reception and procurement centers.

The organization of incentive-promoting trade in items of increased demand in exchange of secondary raw materials delivered by the population needs radical improvement. However, the BeSSR Ministry of Trade, BeSSR State Committee for Publishing Houses, Printing Plants and the Book Trade, the oblast executive committees and the Minsk city executive committee are not paying proper attention to this matter.

Let us look at the possibility of collecting secondary raw materials by voluntary personnel, such as retirees, secondary school students and the personnel of housing management services and housing administrations.

Currently only 416 voluntary procurement workers are participating in this project, 96 of whom in Minsk, or one per housing administration. Equally low is the level of utilization of the mobile procurement system. Due to lack of pulling vehicles, the mobile facilities are frequently used in stationary positions and the number of travelling procurement workers is being reduced. In the past few years alone their number has declined by nearly one half.

[Question] What is being done to reduce production waste and ensure the more complete processing of resources?

[Answer] There is nothing very much to boast about. The BeSSR Ministry of Local Industry is delaying the construction of factories for processing leather and fur waste in Beshenkovichi and the manufacturing of goods from dacron waste in Mogilev, the reconstruction of the cotton string factory in Antopol and the textile production association in Kobrin. The plan for the construction of a plant for processing secondary polymer materials in Grodno, stipulated by the USSR Gosplan, is being formulated too slowly. The management of the regeneration plant in Mogilev has not ensured the commissioning of facilities for processing worn tires with metal cords, and the BeSSR Ministry of Housing and Municipal Services, of capacities for the utilization of heat from the burning of residential waste at the garbage treatment plant in Minsk and the completion of capacities for processing solid residential waste in the republic's oblast centers.

Individual managers continue to concentrate mainly on obtaining and using primary raw and other materials. The BeSSR ministries of highway construction

and maintenance, rural construction and housing and municipal services and the Belorussian Interkolkhoz Construction Administration, for example, have the possibility of using ash and ash slag waste generated at thermoelectric power plants instead of cement, but are not being active in doing so. The BeSSR Ministry of Construction Materials Industry is not paying proper attention to the use of phosphogypsum, which is a waste generated at the chemical plant in Gomel, as a substitute for gypsum in cement manufacturing. Instead of increasing the volume of processed waste paper in the production of paper and cardboard goods, the Belbumprom Production Association is increasing the use of cellulose. In 1984 the cellulose and paper combine in Svetlogorsk opened a shop for the production of cellulose with a 20,000-ton capacity, which will reduce waste paper processing by 38,000 tons.

[Question] Are managers of enterprises and associations under union jurisdiction contributing today to the efficient solution of problems related to the efficient utilization of production waste?

[Answer] No, they are not. Here are examples. The Bobruyshina Production Association dumps more than 10,000 tons of rubber-containing production waste which could be used in the manufacturing of reclaimed products, rubbercrumbs and other industrial rubber goods. Every year more than 3,000 tons of containers of cement, carbon black, detergents and chemical, petrochemical and other goods are being destroyed, although they are used in cardboard production in other republics, at the Maykop cellulose and paper combine in particular.

The Bobruysk hydrolysis plant dumps more than 150,000 tons of lignin, thus causing irreparable damage to the environment. Meanwhile, the Rechitsa hydrolysis and yeast plant has developed jointly with the Belselkhozkhimiya Production Association a technology for and has undertaken the production of fertilizers from that same type of waste. The Azot Production Association in Grodno releases more than 600,000 tons of carbon dioxide urgently needed by food and other industrial enterprises.

Every year the republic's industrial enterprises and construction organizations fail to regenerate more than 2,000 tons of lacker and dye waste which, after suitable processing, could be sold to the population. Loss of broken glass waste at enterprises of the BeSSR ministries of food industry and vegetable and fruit industry, the Belorussian Cooperative Union, BeSSR Ministry of Housing and Municipal Services and the Belorussian construction organizations totals some 5,000 tons. Yet such glass could be used asfiller in glass concrete and other products. More than 200,000 cubic meters of timber waste generated by the construction organizations and the population are left unused, although experience has been acquired in the country in the production of wood briquettes from waste from timber processing, wood tiles, plywood, used containers and wooden objects.

Some enterprises under union jurisdiction are not increasing the volume of utilization of rolled ferrous metal waste without resmelting in the manufacturing of industrial and consumer goods. Thus, every year the Gomselmash Plant generates more than 53,000 tons of ferrous metal waste, but no more than 54 tons are used for production purposes without resmelting. The



situation at the Lidselmash Plant, the lightweight metal structures plant in Molodechno, the Machine Tool Building Plant imeni S. M. Kirov in Vitebsk and others is no better.

The lack of processing technology and equipment leads to the fact that many types of waste, in the chemical industry sectors in particular, remain unused. However, the BeSSR Academy of Sciences and the sectorial scientific research and design-technological institutes are insufficiently working on the development and industrial utilization of technological processes which will make possible the use of production waste, the substitution of secondary for primary raw materials and the development of low-waste technologies.

[Question] The efficient utilization of secondary raw materials requires substantial social propaganda work and the training of skilled cadres. What is the BeSSR Gossnab doing in this respect?

[Answer] Of late 15 practical science conferences, meetings and aktiv gatherings have been held on improving the use of secondary raw materials. The BeSSR Gossnab is cooperating with the Belorussian Republic Council of Scientific and Technical Societies and the Minsk House of Technology in organizing and holding conferences and exhibits. The BeSSR Gossnab personnel make extensive use of mass information media. A color documentary on "Experience in the Utilization of Secondary Resources in the Belorussian SSR" was produced.

The Minsk training center of the All-Union Institute for Upgrading the Skills of BeSSR Gossnab Cadres is offering systematic training to engineering and technical workers within our system. There is a special curriculum for courses on the economics, organization, equipment and technology and processing of various types of secondary material resources and the study of the latest achievements of science and technology and progressive experience in this area.

The upgrading of skills of managers and specialists in ministries, departments, enterprises and organizations has been organized on the basis of the permanent exhibit on "Utilization of Secondary Material Resources."

[Question] What new developments have taken place in this work subsequent to the 3 December 1984 CPSU Central Committee decree "On Serious Shortcomings in the Utilization of Secondary Material Resources?"

[Answer] Together with the executive committees of the soviets of people's deputies, we are planning to open a store for the sale of some types of waste to the population and to construction, industrial, agricultural and other organizations. To this effect some enterprises for the procurement of such items and wholesale stores will be transferred to the BeSSR Gossnab Resource Mobilization Administration.

This year we shall undertake the development of a comprehensive target program for the utilization of secondary material resources during the 12th Five-Year Plan. The program will pay particular attention to the utilization of waste generated by the chemical, microbiological, petrochemical and petroleum

refining industries and the mineral fertilizer production industry. We are considering the organization of the processing of secondary refractory materials into fireclay powder and fillers for heat-resistant concrete, totalling 25,000-30,000 tons per year. Deliveries of casting production waste--used mold mixtures and granulated slag--totalling 200,000 tons per year will be made to brick plants.

Furthermore, the Fanipol plant of the Belorussian Chemical Procurement and Marketing Administration will undertake the processing and regeneration of lacker and dye waste. The Minsk metal goods procurement enterprise will process metal waste into ingots for use by the local industry enterprises and construction organizations. The Minsk container repair enterprise of the Beltara Trust will process unused and discarded containers and timber waste totalling 5,000 cubic meters per year.

[Question] A final question: In your view, what must be done to intensify control over the utilization of secondary resources?

[Answer] The BeSSR Gossnab believes, above all, as stipulated in the decree, that it is necessary to set up inspectorates in all republic oblasts. The Gossnab must set up a trade firm (association) in charge of sorting, batching and marketing waste products to the population for repairs, household needs and individual housing construction. Furthermore, the time has come to formulate conditions for paying bonuses to our workers for putting secondary resources into economic circulation. It has also become necessary to mechanize records and accountability with the help of the computer centers electronic machines and automated control systems.

Unquestionably, the administrative and material responsibility of enterprise managers for the transportation of the waste to dumps or their burning or burying must be clearly regulated and significantly increased.

Finally, the Soyuzglavvtorresursy Administration and the the USSR Gossnab Capital Construction Administration should resolve, once and for all, the question of drafting a technical construction plan for the Grodno plant for processing secondary polymer raw materials.

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## RESOURCE UTILIZATION AND SUPPLY

### GREATER MATERIAL RESOURCES RECYCLING EFFORT PRESSED

#### Use of Recycled Materials

Moscow IZVESTIYA AKADEMII NAUK SSSR: SERIYA EKONOMICHESKAYA in Russian No 3, May-Jun 85 pp 93-103

[Article by L. L. Zusman]

[Text] This article substantiates methodical and economic concepts relative to the fullest possible utilization of secondary material resources. The reduced procurement prices of secondary ferrous metals, introduced on 1 January 1982, and the theoretically erroneous claims of the lack of labor value of generated metal waste and amortization scrap are considered critically in accordance with the CPSU Central Committee decree "On Serious Shortcomings in the Utilization of Secondary Material Resources in the National Economy." Specific measures are suggested for the fullest possible collection and utilization of secondary ferrous metals and for improving their quality.

The fullest possible comprehensive utilization of natural, industrial and agricultural resources and the use of material conserving equipment and technology are necessary prerequisites for upgrading social production efficiency. Under contemporary conditions economizing on material resources is a major source of ensuring production growth.

Material-intensiveness of the gross social product declined in 1981-1982 and, as a result of the conservation of raw materials, materials, fuel, energy and other labor objects, totaled 8.6 billion rubles (6). As a result of their reduced outlay in commodity output and work, in 1981-1983 the industrial, construction, transportation, communal and consumer enterprises and organizations were able to save 2.6 million tons of rolled ferrous metals, 38.7 million tons of boiler-furnace fuel (computed in terms of standard fuel), 48.7 billion kilowatt hours of electric power and 184.1 million gigacalories of thermal energy.

Fuel savings from the utilization of secondary power resources and other factors totaled 54.9 million tons of standard fuel in 1981 and 55 million tons

in 1982; in 1983 64.5 million tons of metal waste were used, rescued from basic and working assets, either written off or subject to repairs, yielding 31.3 million tons; secondary metal raw material resources used in 1983 amounted to 95.8 million tons. The utilization of other types of secondary resources somewhat improved as well.

Nevertheless, the extent of utilization of secondary resources remains insufficient. This applies to waste from the concentration of raw materials and fuel, the slag generated in their processing, secondary fuel resources, timber waste, some chemical industry waste, metal waste and amortization ferrous and nonferrous metal scrap, used rubber items, waste paper and other industrial waste.

In accordance with the resolution of the 26th CPSU Congress, waste must either be eliminated or maximally reduced as a result of the development and application of wasteless or low-waste technologies or its sufficient utilization as a secondary resource.

Examples may be cited of the efficient utilization of extracted minerals. For example, in addition to copper, nickel and cobalt, as many as 10 other most valuable components are extracted from the Taymyr ores at the Norilsk Metallurgical Combine. In many areas, however, a considerable percentage of useful byproducts are dumped together with the rock.

The waste of concentrated iron ores dumped contains more than 30 million tons of iron and, altogether, at the present time, totals many hundreds of thousands of tons and the arable land they cover, many thousands of hectares. This situation becomes particularly intolerable today, when we are forced to develop distant deposits in areas with a harsh climate and difficult geological conditions.

An appraisal based not only on the usable share of the useful components they contain, but which should take into consideration their full utilization on the basis of a progressive technology applied in their extraction, should contribute to the elimination or, at least, the reduction of losses of natural resources. Such an evaluation of extracted natural resources would contribute to the determination of the economic losses suffered from the partial extraction of the components they contain and the formulation and, subsequently, planned reduction of the amount of losses of useful components and the formulation of an efficient system for economic and moral incentives, which would contribute to the elimination and reduction of such losses in the national economy. The same applies to the assessment of other types of usable resources and waste (scrap) of industrial and agricultural production.

So far, the raw materials, materials and fuel contained in production waste are not assessed and their availability is not included in the bookkeeping balance sheets of enterprises and organizations, although potentially they could become consumer values. As to the waste used, its prices are set without sufficient substantiation and, as a rule, are lower than their relative consumer value. It is considered that such prices should encourage a relative lowering of waste. What is ignored, however, is that the groundless



price reduction does not encourage the fullest possible collection and proper storing of the waste.

The problem of saving on material resources is closely related to the thrifty attitude toward the natural wealth. About 25 percent of the extracted iron ore is contained in the waste from its concentration. Secondary resources exist in all material production sectors and ferrous metal secondary resources play an important role among them.

The CPSU Central Committee decree "On Serious Shortcomings in the Utilization of Secondary Material Resources in the National Economy" (3) notes that despite the decisions made on improving the utilization of secondary material resources in industry, the situation in that sector remains unsatisfactory. The most serious shortcomings are allowed by a number of ministries, including the USSR Ministry of Ferrous Metallurgy.

The dynamics of metal in the national economy is of a circular nature: the metal waste and amortization scrap generated in the course of metal production and consumption are the material base of basic and working capital either written off or repaired, returning as labor objects for resmelting in metallurgical production. It is at that point that the new, the second cycle in the circulation of metal in the national economy begins. This cycle is based on properties of the metal, such as the possibility of its reuse, as a result of which the metal used in this process is known as secondary.

A trend toward lowering the share of metal waste has been seen in past years, from 67.3 percent in 1970 to 65 percent in 1982, and so has the increased share of amortization metal scrap, correspondingly from 30.0 to 32.8 percent of the overall volume of secondary metal, with a slight reduction in the share of metal extracted from slag waste and dumps (from 2.7 to 2.2 percent).

According to this author's estimates, the structure of metal waste and amortization scrap had the following structure between 1970 and 1982 (percent of total):

	<u>1970</u>	<u>1975</u>	<u>1982</u>
1. Metal waste			
Metallurgical production	55.0	53.6	51.1
Casting	14.2	14.4	14.7
Metal processing and machine building	29.2	30.2	32.6
Construction	1.6	1.8	1.6
Total	100.0	100.0	100.0
2. Amortization scrap			
From liquidation of basic capital	27.6	29.4	32.3
From capital and current repairs, reconstruction and modernization of productive capital	47.0	47.1	47.2
From writing off replaced equipment	17.7	14.7	13.3
From writing off technological equipment and instruments	7.7	1.5	1.4
From writing off items of minor value and inventory (including population property)		7.3	5.8
Total	100.0	100.0	100.0

These data indicate that the share of metallurgical production in the structure of metal waste is systematically declining, while the quality of metal goods is increasing and the share of castings and, particularly, metal processing and machine building, is increasing systematically. This change in the structure of sources of metal waste calls for improving conditions for the procurement of marketable metal waste resources.

The percentage of replaced equipment in the amortization scrap declined. This was partially due to the reduced use of ingot molds as a result of the application of the continuous method for the production of cast ingots. At the same time, the percentage of amortization scrap from the writing off of productive capital increased and this increase would be even higher if we include the individual elements of this scrap used to replace undelivered spare parts.

In 1982 1.8 million tons of metal waste were used to manufacture metal consumer goods and 0.4 million tons to manufacture industrial items. About 4 percent of marketable metal waste resources are exported (8). The balance of the metal waste and amortization scrap was resmelted in steel-smelting and casting enterprises or partially used in pig iron smelting. The production of the same quantity of metal from natural materials would have required the additional extraction and processing of about 270 million tons of iron ore, 135 million tons of cokable coal and lime and the smelting of about 90 million tons of cast iron.

The structure of secondary metal raw materials will be changed in the future. Estimates indicate that in the next 15 to 20 years the economical utilization of metal in ferrous metallurgy, machine building and metal processing will lead to a relative decline in the amount of metal waste. The share of amortization scrap, generated as a result of capital repairs of productive capital will decline as well as a result of the use of more durable types of metal and the accelerated pace of replacement of physically worn and morally obsolete assets. At the same time, the share of amortization scrap will increase as a result of the writing off of physically worn and morally obsolete productive capital and its reconstruction and modernization. As spare part availability improves, the amount of amortization scrap from writing off capital assets will increase. This is also based on improved planning of the delivery of such types of secondary raw materials and increased economic incentive in the scrap procurement system.

We should point out that metal waste and amortization metal scrap include alloyed nickel, tungsten, molybdenum and other valuable alloys (with a total value of roughly 300 million rubles) which, in the steel-smelting process, can replace nearly one-third of the corresponding metals and ferroalloys. The fullest possible utilization of such metal waste and amortization scrap contributes to the conservation of valuable alloying elements, necessary raw material resources and production capacities for their mining, concentration and extraction.

Today secondary metal resources account for about 45 percent of the overall amount of raw materials used in steel smelting, including 96 percent in

electrosteel smelting and about 52 percent in pig iron casting; in other words, in addition to recycled cast iron, they are the basic type of metallurgical raw material, the economic and efficient utilization of which are as important as the conservation of the prime metal--cast iron.

These trends in the utilization of secondary metal resources will remain virtually unchanged despite the forthcoming replacement of the Martin production method with converters using an oxygen blow, which significantly reduces the possibility of utilizing secondary metal. At the same time, electrosteel-smelting production will be developed at a faster pace. It will use secondary steel resources for virtually the entire process; the production of iron castings in electric furnaces will be developed as well, replacing the cupola method and using synthetic carbonized secondary steel.

Therefore, the fullest possible efficient utilization of metal waste and amortization scrap is of most important national economic significance. Such resources are generated in state and cooperative enterprises and organizations, the communal economy and the households.

Metal waste and amortization scrap resources of enterprises and farms are assessed at approximately 400,000 (the number of farms generating scrap), half of which marketable.

Economic incentive for the creation of proper conditions for collecting and storing such secondary raw materials and preventing the mixing of various types and grades of metal scrap and waste and their pollution and oxidation, as well as stimulating packaging in enterprises which generate 1,500 or more tons of metal waste per year, will play a major role. Packaging will be of great importance in increasing the freight capacity of railroad cars and trucks hauling metal scrap from collection to consumption centers.

A system of bonuses to workers at enterprises and farms for collecting, storing, delivering and shipping out scrap and waste of ferrous and nonferrous metals, paid out of the funds earned from their marketing at procurement prices, was stipulated by decree of the USSR State Committee for Labor and Social Problems of 1 December 1977, with a view to resolving such problems.

The generation of scrap and ferrous metal waste does not involve production costs. Therefore, the cost of the scrap and waste cannot be based directly on the socially necessary labor outlays. However, secondary ferrous metals used as raw material in steel-smelting and casting replace their equivalent in cast iron, the production of which involves a certain amount of labor. Since in terms of the technological conditions of its use in steel smelting and casting, cast iron can be partially replaced with metal scrap, the value of the latter could be determined on the basis of the cost of the cast iron it replaces. Until recently, this essential stipulation was the base for determining marketing prices for ferrous metal scrap and waste (11).

The cost of steel is a criterion of the accuracy with which the metallurgical value of secondary types of steel scrap is determined. It should not change if carbon steel scrap is used instead of cast iron or alloyed scrap instead of cast iron, ferroalloys and alloyed nonferrous metals. The same applies to



cast iron scrap used in cast iron production. The cast iron should be rated not on the basis of the average sectorial production cost but of production outlays in the manufacturing of liquid conversion cast iron (16).

Studies were made in metallurgical enterprises in setting the marketing prices of the various types and grades of secondary metal. The purpose was to assess their metallurgical value compared to conversion cast iron. It was on the basis of the average sectorial production cost of cast iron that the marketing prices were set. Procurement prices are computed on the basis of the same cost basis. However, they do not include the average cost of hauling secondary metal from generating to utilization centers, loading and unloading expenditures, the cost of the procurement system and the standardized profit from such types of production activities.

Marketing and procurement prices for secondary metal were differentiated in accordance with variety, status, storing conditions, etc.

Thus, the use of lightweight types of metal waste lengthens the time needed to load it in steel-smelting units, increased furnace loss, incomplete smelts and, in the final account, reduced labor productivity.

Secondary metal resources cannot be used directly in steel smelting. This applies to an even greater extent to mixed and polluted metal scraps. Preliminary preparations are needed in order to upgrade the quality of secondary ferrous metals: most of the metal waste and amortization scrap must be mechanically processed and mixed high-alloy shavings must be presmelted in order to establish the chemical composition of the produced so-called "passport" ingots. The mechanical treatment of metal waste and amortization scrap includes, among others, sorting, crushing, cutting, packing and briquetting. The qualitative preparations of secondary metal reduce the time needed to load it in the Martin furnaces by 25 percent; Martin furnace production correspondingly increases and metal losses are reduced; many other production and technical indicators are also improved. The same is noted in the use of well-prepared secondary metal in other steel-smelting units. Furthermore, use is made of a considerable percentage of valuable alloying elements contained in the secondary metal.

Therefore, the marketing and procurement prices computed on this basis would be the equivalent of the cost of steel with an optimal utilization of cast iron and metal scrap. They have been repeatedly set by the State Committee for Prices and reflected in the respective price lists.

Optimal ratios of resmelted pig iron to steel scrap must be maintained in the Martin production process. The violation of this optimum by increasing the share of liquid pig iron in the batch has a double influence: it accelerates the smelting process and correspondingly lowers the percentage of fuel used; however, this increases the period needed for refining the metal and the amount of heat required because of the greater content of admixtures introduced with the cast iron (carbon, silicon, sulfur and phosphorus). Outlays of slag-forming materials increase. That is why Martin steel production requires the maintenance of an optimal ratio between steel scrap



and cast iron. The electrosteel-smelting process for obtaining high-quality steel is possible only with the use of low carbon steel scrap as raw material.

With the approval of the new wholesale prices of productive capital of 1 January 1982, cast iron prices were raised by 30 percent (9), while no changes were made in the procurement and marketing prices of scrap and ferrous metal waste (10), i.e., the methodology of determining the ratio of prices of between these two types of interchangeable metallurgical raw material, used in steel smelting and casting production, was violated.

According to the State Committee for Prices, the relative reduction of the prices of scrap and ferrous metal waste would allegedly create a greater interest in processing the scrap and increase requirements for the economic utilization of the metal and upgrade its utilization coefficient by the consumer (12). The same applies to amortization scrap as well, which accounts for about 45 percent of the overall commodity resources of secondary metal, although in terms of economic origin, scrap is essentially different from metal waste.

As we know, wholesale prices must be based on the socially necessary labor outlays in the reproduction of a given product or a similar product, taking into consideration differences in consumer value. Unfortunately, this concept has been ignored in the new procurement prices of scrap and ferrous metal waste of 1 January 1982.

Actually, in order to generate interest in scrap processing (obviously, meaning not the mechanical processing but scrap resmelting), the prices of scrap and ferrous metal waste are differentiated. Such price differentiation is based on the different ratios in the metallurgical value of scrap, waste and cast iron; in terms of cast iron, it ranges from 78 to 30 percent, with 9 percent slag. Such marketing and procurement prices would economically make it possible, through mechanical processing, to convert lightweight types of metal waste and scrap to dense heavy packets or standard-size shapes. This would make suitable the metal scrap for resmelting, particularly if we take into consideration the fact that most of the secondary steel contains about 0.2 percent carbon instead of 3.5-4.0 percent as does cast iron; metal waste has the same content of other admixtures, including sulfur, phosphorus and silicon, as finished steel.

Actually, the scrap procurement organizations still lack the necessary production capacities. Therefore, a considerable percentage of the metal waste is shipped to the metallurgical enterprises unprepared for its efficient utilization; furthermore, such enterprises are insufficiently equipped with scrap processing equipment, as a result of which the productivity of steel-smelting units is lowered.

In order to correct this situation, the 7 January 1981 CPSU Central Committee and USSR Council of Ministers decree "On Measures for Further Improving the Organization of the Procurement (Delivery) and Processing of Ferrous Metal Scrap and Waste" (4) stipulated further improvements in the organization of the procurement and processing of secondary ferrous metals, with a view to substantially improving the availability of high-grade secondary metal for

steel smelting and, thus, increasing the productivity of steel-smelting machine units and the quality of the metal. To this effect, the network of shops and sectors in the procurement system must be significantly expanded by 1985; it must be equipped with modern scrap processing equipment and the overall volume of processing in the system should reach 35 million tons, exceeding the actual 1980 volume by 30 percent; the density of the metal scrap (in the molds) should reach 1.3-1.5 tons per cubic meter, or an increase of 30-50 percent.

Consequently, the reduced ratio of prices of secondary metal and the average sectorial cost of conversion of cast iron by 30 percent as of 1 January 1982 is inconsistent with the CPSU Central Committee and USSR Council of Ministers 7 January 1981 decree on improving the quality of preparation of secondary metal.

We must take into consideration that the consumption of cast iron is strictly limited by the planned production volume; in turn, this determines the corresponding volume of consumption of metal scrap, which is totally independent of marketing price.

As to the reason for the relative lowering of procurement prices of metal waste, allegedly for the sake of encouraging the economical utilization of metal by consumers and upgrading its utilization coefficient, to say the least it is not justified as confirmed by the following example: about 50 percent of the metal waste in machine building consists of shavings, the procurement price of which was set on 1 January 1982 at 16.1 rubles per ton, instead of 20.93 rubles (as should have been the case, based on the increased price of cast iron). With an average production cost of processed steel parts with shavings in excess of 2,000 rubles per ton, steel shavings account for 30 percent of the finished goods and as a result of the relative drop in the prices of steel shavings by 4.83 rubles, the overall procurement value of such shavings is lowered to 73 kopecks per ton. This is no more than 0.08 percent of the cost of the finished goods or, should they cost even more, which is quite likely, even less, i.e., less than the value of the calculated production cost of metal goods. This example proves that the claim that lowering procurement prices of metal waste contributes to increasing the requirements of the consumer in terms of the economical utilization of metal and increasing its utilization coefficient is groundless. Unfortunately, there is no understanding of the fact that reducing the prices of secondary metals cannot influence the increased amount of its consumption, for it is determined by the balance of the produced cast iron and the flexible resources of secondary metal raw materials, and that the lowering of procurement prices could weaken the economic incentive for the flexible gathering of secondary raw materials and increase irretrievable losses. The higher cost of electrometal, based almost entirely on the resmelting of secondary metal, is determined not by its high cost but by the cost of the industrial electric power, electrodes and alloying elements. This increased cost of the electrometal corresponds to its high-grade qualities, compared with Martin and converter steel. The claim that reduced procurement prices of ferrous metal scrap and waste as of 1 January 1982 would enable us to lower production costs and obtain additional profits of several hundred million rubles per year in ferrous metallurgy is detrimental to the economic interests of machine

building and other industrial and economic sectors which procure metal waste and amortization scrap. At the same time, this lowers the economic incentive of enterprise and organization workers for the differentiated gathering, storing, delivering and shipping of various types of ferrous metal scrap and waste, based on the value of goods marketed as per USSR State Committee for Labor and Social Problems decree of 1 December 1977, and incentives for their utilization in the manufacturing of consumer goods as per CPSU Central Committee and USSR Council of Ministers 30 June 1981 decree (5).

A comparison of 1981 and 1982 data on the volume of procurement of marketable metal scrap resources indicates an overall increase of 1.3 percent with a reduced volume of procurements of amortization scraps by 1.4 percent; the 1983 overall procurement volume dropped by 0.5 percent and procurements of amortization scrap dropped additionally by 0.8 percent. The results of procurements of ferrous metal scrap in 1983 appear quite unsatisfactory against the background of the increased consumption of metallurgical output that year, equalling 4 percent and, particularly, of amortization scrap with an average annual increase of capital assets in the national economy by a 2.4 factor between 1970 and 1983 and a volume of outlays of capital repairs by a factor of 2.3 for the same period. We do not tend to relate such unsatisfactory results in the procurement of ferrous metal scrap and waste entirely to the new lowered procurement prices of 1 January 1982. We believe, however, that this factor had a certain influence on lowering the volume of ferrous metal scrap and waste and, consequently, the corresponding increase of nonrecoverable losses.

The 8 December 1984 CPSU Central Committee decree notes that "the economic levers poorly interest enterprises and organizations in the maximal utilization of secondary raw materials." It stipulates, in this connection, that, with the participation of the interested ministries and departments, the State Committee for Prices should formulate proposals on eliminating shortcomings in the current procedure for secondary raw material price setting. This instruction directly applies to secondary ferrous metals as well.

In order to ensure the fuller utilization of the generated resources of secondary ferrous metals, the new procurement prices of 1 January 1982 should be revised on the basis of substantiated estimates based on marketing prices and the new average sectorial cost of conversion cast iron.

In trying to perfect the price-setting method, some economists claim (see (13)) that metal waste and amortization scrap in their initial condition have no value whatsoever. This is substantiated by the fact that "amortization scrap means written-off equipment which, as a rule, has fully transferred its value to the newly created output," for at the present time the average amortization period for renovation is 16-17 years, while the actual service life of the equipment is, allegedly, 18 years. According to such authors, metal waste as well has no value "for it is neither an auxiliary product nor a byproduct" (13, p 50). Therefore, the authors conclude, "scrap and waste are bearers of fictitious value" for which reason procurement prices should be limited to procurement, transportation and preparation costs of scrap and



metal waste with the necessary profit. This limit is below the existing prices by a minimum of a factor of 2-2.5 (13, p 50).

Actually, the value of secondary ferrous metals in their recreated state consists of the labor outlays required, which are part of the labor outlays for the production of ferrous metals, ingots and metal goods not included in the cost of the finished products, or part of the value of the productive capital which has not been entirely transferred to the goods produced with their help.

In considering the dynamics of the value of products among the various industrial sectors, K. Marx illustrates this question as follows: "For example, every day, whole freight cars of iron shavings are generated from the production of locomotive engines. They are collected and resold (or entered as credit) to that same owner of the iron works which supply the owner of the locomotive engine manufacturing plant his main raw material. The owner of the iron manufacturing works once again sells these shavings in a compacted form, adding to them the additional labor. In the form in which they are shipped back to the owner of the locomotive engine manufacturing plant, such metal shavings form that part of the value of the product which replaces the raw material. They thus move between the two plants. Naturally, these are not the same shavings but also a specific amount of such shavings. This share is alternately a raw material for both industrial sectors and, considered from the viewpoint of its value, is only shifting from one enterprise to another. Therefore, it is not part of the final product but is a restoration of fixed capital..." (1).

Elsewhere, discussing the existence of materialized labor in waste, K. Marx points out that "it is only as waste of combined production and, therefore, large-scale production, that it assumes a significance in the production process, as the carrier of exchange value" (2).

According to the Basic Stipulations on Planning Production Cost, approved by the USSR Gosplan, USSR Ministry of Finance and the USSR Central Statistical Administration on 20 June 1970, the value of waste should be deducted from the overall value of raw materials and semifinished products used in production and should be estimated as a separate material value.

In the structure of the value of metal goods the value of finished machine-building output manufactured from such metal is not fully included; some of it is left in the value of the generated metal waste. For example, if the value of the metal output used in the production of said items equals 200 rubles per ton, and the unit of output is worth 300 rubles, while the metal waste accounts for 25 percent of the total metal used, or 0.75 tons at a procurement price of 40 rubles per ton, we must subtract from the value of the spent metal  $0.75 \times 40 = 30$  rubles, and the value of the spent metal per unit of finished goods is estimated at  $300 - 30 = 270$  rubles. In subtracting the procurement payments for metal waste, the value per unit of finished output would rise to 300 rubles and, consequently, would not reflect the true value. According to the USSR Ministry of Finance Procedure, amortization withholdings are based on the standardized rather than actual service life of items, for which reason



the liquidation value of amortization scrap reflects the really existing material content of written-off machinery and other labor tools.

Correspondingly, the amortization norm ( $N_a$ ) is computed (see (14)) according to the formula:

$$N_a = \frac{F + R_m - L}{FT_a}$$

in which  $F$  is the initial value of basic production capital;  $R_m$  are outlays for capital repairs (including modernization and reconstruction) during the service life of said basic capital;  $L$  is the liquidation value of basic production capital as a result of writeoffs;  $T_a$  is the useful life of said basic production capital.

A somewhat different formula has been used in economic publications and in practical work in computing the amortization norm ( $A_p$ ) (see (15)):

$$A_p = \frac{K_p + L_p - L}{K_p T}$$

in which  $K_p$  is the initial value of basic productive capital;  $L_p$  are liquidation costs (dismantling and sorting) of written-off basic productive assets  $L$  is the liquidation value of basic productive capital as a result of the writeoff;  $T$  is the amortization period (service life) of said basic productive capital.

As we can see, the liquidation value of basic productive capital is a separate component in the formula for computing the amortization norm. This value is not transferred to the finished goods produced with its help but is recorded in the enterprise's balance sheet until the liquidated basic production capital is shipped to the procurement system as amortization metal scrap.

Therefore, the claim that the metal waste and amortization scrap resources which are generated have no value is theoretically erroneous and eliminating payments for procured resources of secondary raw materials would result in practical terms to the incomplete collecting and irretrievable loss of part of these resources. Even if such losses would not exceed 5 percent, from the economic viewpoint this would mean the need for additional simultaneous outlays for the creation of the corresponding compensating capacities for cast-iron smelting and developing the backup sectors, totaling 1.2-1.4 billion rubles, as well as current outlays of 230-250 million rubles, as well as the inefficient utilization of a respective share of natural resources.

Vtorchermet, the organization in charge of procuring, gathering, and preparing the shipping of ferrous metal scrap and waste to metallurgical plants, is facing difficult problems. Along with the high level of concentration of metal waste at large machine-building enterprises, a considerable amount, amortization metal scrap in particular, is scattered throughout the country's territory. Even at metal-processing and machine-building plants, in our

assessment, as a result of insufficiently thorough gathering of generated metal waste, about 5 percent of metal waste in bits and some 15 percent of shavings are irretrievably lost, amounting to some 2 million tons per year. According to the Main Secondary Raw Materials Association, which purchases some 300,000 tons of metal scrap per year from the population, about 500,000 tons per year are dumped along with garbage. The country has an annual output of more than 320,000 cans for which, in addition to ferrous metal, some 2,300 tons of tin are used, whereas no more than some 500 tons are collected. Every year, about 1 million tons of amortization metal are generated in agriculture--in agricultural machines, tools, tractors and trucks which have been written off but are kept essentially for the use of the individual structures and parts for repairs of similar running machinery because of the insufficient availability of new spare parts and transport facilities.

These estimates indicate that presently approximately 4 million tons of secondary marketable resources of ferrous metals remain unused and that their utilization coefficient does not exceed 0.92, a figure which dropped to roughly 0.89 because of unsatisfactory treatment. As a result of the low level of utilization of secondary ferrous metals and unsatisfactory preparations for their smelting for steel production, some 50 million tons of cast iron must be smelted additionally every year, at a cost of 400 million rubles, while another 3 billion rubles are spent on outlays related to the capital intensiveness of blast furnace, coke chemical production and extraction of iron ore, cokable coal and natural gas.

The following are mandatory conditions for the fullest possible utilization of reserves of secondary metal resources:

Setting accurately computed procurement and marketing prices;

Establishing the various types and grades of secondary metals on the basis of the value of marketing prices and the average sectorial cost of conversion and casting pig iron and technical and economic equivalents;

Determining the level of procurement prices on the basis of marketing prices, excluding procurement outlays and the standard profit of the procurement system;

Mandatorily reflecting metal waste and amortization scrap resources in procurement shops operating on a cost-accounting basis in the individual enterprises and organizations;

Banning the dumping of metal waste and scrap in city and slag dumps;

Allocating funds for new equipment used to replace worn-out or obsolete equipment in accordance with the mandatory delivery of the latter to scrap procurement organizations; perfecting methods for planning the amounts of generated and delivered metal waste and amortization scrap;

Encouraging the social activeness of secondary school students and the remaining part of the population for the collection and delivery of used household metal objects and use of proper incentives--material, moral, etc.

In accordance with the 8 December 1984 CPSU Central Committee, the necessary material resources, capital investments and ceilings for contracting work must be allocated for the development within the Vtorchermet system and the metallurgical enterprises of the necessary capacities for the corresponding processing of secondary ferrous metals in a condition optimal for their resmelting.

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#### Use of Secondary Resources

Kiev EKONOMIKA SOVETSKOY UKRAINY in Russian No 5, May 85 pp 36-44

[Article by N. Kalugin and N. Yermoshenko, candidates of economic sciences]

[Text] Improving the utilization of material and fuel-energy resources, which leads to balanced production and increased industrial output, is of great importance in accelerating public production intensification. The importance of the efficient utilization of material resources is determined also by the fact that they are a most important structural component of the huge mass of all sorts of resources used in public production. For example, their share in the structure of the cost of industrial output in the republic exceeds amortization outlays by more than tenfold and the share of the cost of wages by a factor of 5.

It is precisely from this viewpoint that the problem of the fuller involvement of secondary resources in economic circulation must be resolved. The level of their utilization in the overall volume of resource consumption at the present stage is legitimately considered one of the indicators which characterize public production efficiency. This increases requirements concerning the management of the utilization of secondary resources and the perfecting of its planning, organization and incentive.

In recent years production associations and enterprises, scientific research and design organizations and territorial management organs in the Ukrainian SSR have significantly increased their attention to reducing production waste and its use as secondary resource. A system for managing the utilization of secondary material resources is gradually developing and functioning at a certain efficiency level.

Starting in 1981, the section "Utilization of Secondary Resources" was introduced in the state plan for the economic and social development of the Ukrainian SSR. It includes assignments of ministries and departments on collecting, procuring and processing production waste and byproducts. The republic's ministries, departments and oblasts have set up commissions for the conservation and efficient utilization of material resources, which also perform functions related to improving the utilization of production waste.



The primary party organizations under the party committees have set up commissions to supervise administrative activities in the area of the conservation of material resources. Many councils for scientific and technical progress under the oblast, city and rayon party committees have set up corresponding sections on increasing the influence of the achievements of science and technology on the more efficient utilization of resources.

The Ukrainian SSR Gosplan set up a special department on the utilization of secondary resources. Most oblast planning commissions have assigned specialists in charge of such work. In all republic oblasts the plan for economic and social development includes assignments on secondary raw material procurements.

The work done this five-year plan enabled us to increase the overall volume of involvement of secondary resources in economic circulation by 13.6 percent, reaching 148 million tons in 1984. In the past 4 years output from processed secondary resources amounted to 13.5 billion rubles, including about 1 billion rubles' worth of consumer goods.

The Ukrainian SSR Gossnab has gained experience in organizing the economical utilization of materials and the procurement and processing of secondary raw materials as a middleman between suppliers and consumers, and in perfecting the management structure of procurement organizations, both central and local. Means and methods for collecting secondary raw materials from the population by exchanging it for commodities in greater demand are being developed. In a number of oblasts procurement organizations are specializing in the various types and sources of generated raw materials. The material and technical facilities of enterprises dealing in secondary resources are being strengthened. In rural areas and urban-type settlements the collection of secondary raw materials is done by procurement offices and the procurement systems of the Ukrainian Cooperative Union. Based on the experience of the organization of the republic exhibit on "Reserves in the Ukrainian Economy," permanent exhibits showing the possible utilization of production waste have been set up in Voroshilovgrad, Donetsk, Zaporozhe and many other oblasts.

Nevertheless, in frequent cases the situation leads to the conclusion that despite the availability of developed and even tested technologies, the extent of the use in the national economy of a number of types of secondary resources is by no means optimal or consistent with the contemporary requirements governing the development of the republic's economy. Currently, the volume of production and consumption waste suitable for processing is in excess of 7 billion tons in the Ukrainian SSR. Some 100,000 hectares of land, which includes a large amount of valuable farmland, are under dumps, waste piles and slag heaps. As a whole, for the time being waste is piling up faster than the growth of industrial output. Outlays for its removal and storage, which have reached 3 rubles per ton, are rising and overall republic outlays for such purposes are in excess of 2 billion rubles. Considerable pressure is created on the environment.

Currently about 25 percent of the entire amount of the all-union volume of waste is found on the territory of the Ukrainian SSR, which accounts for less than 3 percent of the total area of the USSR.<sup>1</sup> According to the scientific

research organizations, with the existing technological processes the overall volume of utilization of production waste in the national economy may be doubled and a significant increase may be attained as early as the 12th Five-Year Plan. In implementing the party's task of completing the conversion of the entire economy to intensive development, this growth rate could develop as an essential accelerating factor. Of late scientists and practical workers have been paying increasing attention to resolving this difficult and comprehensive problem.<sup>2</sup> The experience acquired in the GDR, in which material intensiveness in the national income is being reduced by 4-6.5 percent annually,<sup>3</sup> largely through the recycled utilization of material resources, confirms the great possibilities and the need of developing the mechanism of controlling such processes and ascribing national significance to such work. This requires an efficient mechanism for involving secondary resources into economic circulation. Unquestionably, this is a difficult problem which, however, must be resolved at a faster pace than is currently the case.

Let us begin, first of all, by considering the organizational and technical aspects of the problem. In recent years, active work in this area has been done in the republic. Problems related to improving the utilization of waste in industry and construction were considered on two occasions in 1984 by the Ukraine CP Central Committee Council for Furthering Scientific-Technical Progress. They included taking additional steps to reduce material-intensiveness in capital construction and the status of developments and application of progressive low-waste technologies in the food industry.

The problem-oriented subunits--engineering centers--for organizing the extensive utilization of science and technology in resolving problems of preparing metal goods for industrial consumption and the efficient utilization of secondary resources, created on the suggestion of the Ukrainian SSR Gosnab and Academy of Sciences and supported by the CP of the Ukraine Central Committee, are of particular importance.

The use of the achievements of scientific and technical progress plays a most important role in the further reduction of production waste and its fuller utilization as secondary resources. The activities of ministries, departments, scientific research organizations and enterprises in the development of utilization of low-waste and wasteless technological processes and equipment, which ensure the fuller utilization of mineral and raw material resources, are taking place in accordance with the intersectorial republic target program, which includes 46 basic assignments with outlays totaling 106 million rubles and expected annual economic results of 160 million rubles. One hundred and six scientific research, design-engineering and technological organizations and 120 base enterprises in different economic sectors participate in the implementation of the program; they have developed technological processes for the utilization of 90 types of production waste generated on a large scale.

The experience gained in solving major problems of the utilization of production waste through the formulation and implementation of regional scientific and technical programs for the 11th Five-Year Plan in Kiev City and Voroshilovgrad, Dnepropetrovsk, Donetsk, Zaporozhe, Kiev and Sumy oblasts is noteworthy. Thus, the amount of waste from coal concentration and extraction, metallurgical slag, ash and cinder from electric power plants and waste

generated by flux-extracting and processing enterprises, have substantially increased within the framework of the implementation of the subprogram for the utilization of waste and byproducts in construction and the production of construction materials, which is a structural part of the Donbass program. Between 1981 and 1984 the use of said waste in construction and construction materials production totaled 16.5 million tons with annual economic benefits in excess of 28 million rubles, which is twice the volume reached during the 10th Five-Year Plan. The experience acquired in the implementation of republic and regional scientific and technical programs for influencing the more extensive economic utilization of production waste should be supported and developed. In this connection, in the course of the formulation of republic target, sectorial and regional scientific and technical programs for the 12th Five-Year Plan as well as programs for the solution of the most important scientific and technical problems, it would be expedient to take into consideration problems of increasing the utilization of industrial waste. Furthermore, it would make sense to draft, as part of the republic Material-Intensiveness Comprehensive Program, a "waste" subprogram, which would call for the development and utilization of technologies and assignments on the fuller use in the economy of secondary material resources with a view to upgrading production efficiency.

It is equally important to obtain preliminary data on the formation and utilization of production waste on a long-range basis. Some work in this area is being done in the republic. Thus, together with the Ukrainian SSR Academy of Sciences and Ministry of Higher and Specialized Secondary Education, the Ukrainian SSR Gosplan is formulating some forecasts on the generation and utilization of a number of types of production waste, reflected in the Plan for the Development and Location of Production Forces in the Ukrainian SSR for the Period Through the Year 2000 and the Comprehensive Program for Scientific and Technical Progress of the Republic for 1986-2005. This, however, is insufficient. We need a more comprehensive approach to forecasting the formation and utilization of production waste for the next 20 years. This calls for developing within the structure of the Comprehensive Program for Scientific and Technical Progress in the Ukrainian SSR for the next 20 years a special section on secondary resources. A similar section should be included in the regional comprehensive programs for scientific and technical progress. It should encompass, if possible, all developing production waste and the need in the future to upgrade the wastelessness of developed technological processes.

The Ukrainian SSR Gossnab is doing extensive work to upgrade the industrial readiness of resources used, aimed at lowering the amount of waste. Presently, 85 shops and sectors engaged in the preparation of material resources for industrial consumption have been set up, annually processing up to 300,000 tons of ferrous metals, 150,000 tons of chemical and lacquer and dye products, 15,000 tons of paper, 16,000 tons of cables, etc. Resource savings as a result of such activities have reached the 15 percent level. Regional centers are being created for the treatment and procurement of metal goods of increased production readiness. Estimates indicate that their activities will save the republic's national economy about 2 million tons of rolled ferrous metal and 500 million kilowatt hours of electric power per year. Furthermore, this will release more than 100,000 people, 35,000 machine



tools and pieces of equipment, and 800,000 square meters of production area of consumers.

The increased volume of consumption of mineral and raw material resources and the need to take thoroughly into consideration the ecology call for the adoption of all the necessary measures to reduce nonproduction losses and to organize control over the impact of industrial processes on the environment. A conversion to total comprehensive processing of raw materials on the scale of the multisectorial national economic complex in the area and upgrading the wastelessness of technological processes are the most efficient means of resolving said problems. A study indicates, however, that approximately one-half of technologies developed for the utilization of waste are not subject to industrial testing. That is why the inventorying and certification of existing and currently developed technologies for their processing and the scientific development of a record of generated waste would contribute to the more efficient utilization of the production waste as secondary material resources. It is precisely this trend which should yield optimal results above all in economical production, for the processing of waste and the prevention of harmful dumping in the biosphere is expedient and, frequently, technically possible at the very place where such waste is formed, as well as its inclusion in the technological production process.

The recommendations issued at the seminar conducted by the United Nations European Economic Commission on Low-Waste Technology (Tashkent, 15-19 October 1984) include the following definition of wasteless technology: "A method for commodity output (process, enterprise, territorial-production complex) in which raw materials and energy are used most efficiently and comprehensively within the 'raw material resources-production-consumption-secondary raw material resources' cycle in such a way that any impact on the environment does not disturb its normal functioning." This definition dictates the target in the formulation of technological processes in the future.

The application of wasteless technological processes, even with the currently reached scientific and technological level, is a complex process which could and should be implemented on the basis of the gradual restructuring of all industrial sectors, from the individual production facility to regional industrial complexes. The speed and scale of this conversion will be determined by a variety of economic, social and ecological factors. At the same time, the application of resource-conserving technologies, based on the balanced development of the individual areas, is one of the most important trends in the contemporary stage of the scientific and technical revolution, requiring improvements in the forms and methods of influencing this process on the regional level. The most significant experience in this area has been acquired in Donetsk Oblast, where, in addition to the formulation and implementation of the "Donbass" regional scientific and technical program, a general plan is being drafted currently for controlling the comprehensive utilization of waste and secondary resources in the national economy for 1986-1990 and the period through the year 2005. The Ukrainian SSR Academy of Sciences Institute of Industrial Economics has drafted a corresponding methodical support system. Such plans should be drafted under the methodical guidance of the Ukrainian SSR Academy of Sciences scientific centers and



scientific-coordination councils in the individual oblasts where major amounts of production waste are generated.

We know that most waste consists of local secondary raw materials and could be used in the area where it is generated. However, the local soviets of people's deputies make poor use of the rights granted to them in this respect. They insufficiently control the economic utilization of production waste. Such work can be improved by further perfecting the planning of the economic and social development of the regions by including in the plans sections on the utilization of production waste, including that generated by enterprises under union jurisdiction. The list of such planned waste should include, on the one hand, the fact of it being generated in a given area and, on the other, the nomenclature drafted by the Ukrainian SSR Gosplan.

The system of plan indicators must be assigned an important role in the mechanism for putting secondary resources into economic circulation. The role of the plan indicators for the utilization of waste should be enhanced, for the indicator for the utilization of secondary resources currently planned by enterprises and organizations is considered secondary and ignored in assessing their production and economic activities and in summing up socialist competition results.

The use of various types of waste has its specific features which must be taken into consideration in improving current planning practices. Let us take metal waste as an example. The problem of its rational utilization in the economy has double features. On the one hand, this is metal scrap the mechanism for the gathering and utilization of which has already been developed. The volume of procurements and deliveries of metal scrap is planned and enterprises which fail to meet it are fined; conversely, bonuses are paid to some individuals for its implementation. In this case the material incentive not only does not help but sometimes even hinders the work for, in a number of cases, it encourages the negligent classification as metal scrap of still-serviceable items. This situation, however, does not systematically prevail and, in its essential lines, the current mechanism applied by the Vtorchermet organizations works properly. Metal waste is a different matter (residues of metal production which develop in the course of the manufacturing of ingots or their conversion into finished products). It has partially lost the consumer characteristics of the initial raw material but could be used for other purposes without resmelting. The use of such waste enables us to conserve a significant amount of the initial metal and yields tangible economic results. Nevertheless, in the first 4 years of the 11th Five-Year Plan, the territorial bodies of the Ukrainian SSR Gosplan ensured the use of about 2 million tons of industrial waste out of a possible minimum of 6 million tons. The main reason for this situation is the disparity between the cost-accounting interests of enterprises, where such waste is generated, and the interests of the national economy. Unlike metal scrap, as a rule the procurement and delivery of metal waste is not planned. The plan for the delivery of metal scrap includes only that part of the waste used in manufacturing consumer goods. The imperfection of the mechanism for controlling the utilization of metal waste and the absence of adequate interest in such work by the enterprises and organizations involved in this process lead to the fact that the enterprises deliver such waste (with the

exception of the part they use themselves) to the Vtorchermet organizations for resmelting. Therefore, the practice of including in the planned volume of metal scrap deliveries should be extended to that share of metal waste used for industrial needs. In addition to the organizational steps we listed on the establishment of service centers, this will help to upgrade the coefficient of utilization of primary rolled metal and to lower production material-intensiveness.

Studies have indicated that the utilization of most types of waste could be organized on a contractual basis and that the implementation of obligations must be considered in assessing economic activities on the same level as deliveries of basic output. Such a formulation of the problem would enable us to organize the utilization of secondary resources on a planned basis, which would be entirely consistent with the interests of the state.

Most waste includes useful substances and could be utilized in the national economy, i.e., it has a consumer value. The production of such substances involves labor. Consequently, they have a certain value which must be assessed and considered an element of the reproduction process. Yet, the wholesale prices of a number of types of production waste are lower than the level of socially necessary outlays; no prices at all have been set up for some types of waste, such as defecate (food industry waste).

Procurement prices for waste paper, secondary textile materials, tires and other secondary resources, as currently set, frequently fail to compensate for actual transportation expenditures. For example, the Zmiyevka GRES [State Regional Electric Power Plant] supplies ash slag waste to consumers at a cost of 1 ruble per ton whereas the actual cost of its collection and delivery is 1.2 rubles per ton. In this connection, in the first 3 years of the five-year plan losses to the GRES totaled some 64,000 rubles.

In a number of cases such losses are explained by shortcomings in taking into consideration production outlays. For example, the production of granulated slag operates at a loss at the Krivorožstal and imeni Ilich metallurgical combines in Zhdanov and the metallurgical plant in Kramatorsk, whereas profitability at the Zaporozhstal is on the 50 percent level. It is more profitable to use dump rather than liquid slag, for in the first case the outlays are reported to pig iron smelting, whereas in the case of liquid slag, they are included in the cost of the granulated slag, at 1.1 rubles per ton.

Other problems of organizing the primary accountability and reflecting the size of waste in bookkeeping and determining its value in accordance with the "Basic Regulations on Planning, Accounting and Computing the Cost of Output at Industrial Enterprises," must be resolved. The accounting of waste in normed working capital does not take place, as a rule, because of the lack of a proper standard. Enterprises which assess and record waste find themselves in a worse situation, for they are forced to use working capital for such purposes.<sup>4</sup> Frequently they find it more profitable to destroy or dump the waste.

The study of the utilization of secondary power resources in the republic indicates that because of the very specific and complex nature of this

problem, the satisfaction of industrial demand for heat generated from such sources does not exceed some 9 percent and is inconsistent with potential possibilities. In metallurgy alone losses total some 4 million tons of standard fuel. Substantial losses of secondary power resources exist in other sectors as well. Thus, the enterprises of the Ukrainian SSR Main Petrochemical Industry Administration continue to burn significant amounts of natural gas. In many plants the low potency heat energy resources are not taken into consideration and remain virtually unused. The gas industry enterprises and agricultural organizations do not use the heat generated at gas-pumping compressor stations, as a result of which heat losses on the republic's territory are the equivalent of burning 700,000 tons of coal. Yet losses in power resources are frequently caused by the exceptional violation of exploitation regulations, inadequate attention paid to the formulation and implementation of organization and technical measures and the low degree of interest and responsibility shown by enterprises and individual personnel in preventing them. This shows the existence of major shortcomings in statistical accountability and violations of instructions and, in the case of many enterprises, of no accountability of secondary energy resources. The implementation of assignments on their utilization is not encouraged in virtually all economic sectors.

We know that accountability as a means of controlling the production process is a necessary prerequisite in the general function of management. However, many enterprises have no primary accountability on the utilization of production waste, which shows the level at which this process is managed. For this reason alone, data on the one-time accountability study made by the Ukrainian SSR Gosstat and Ukrainian SSR Central Statistical Administration of the status on 1 January 1981 were of substandard quality, which makes their use as a guide impossible. The republic's statistical authorities have not organized in accordance with the planned nomenclature the summation of data based on form 14-SN of 1982, as a result of which the planning authorities and the other organizations engaged in the utilization of secondary material resources use in formulating corresponding assignments, plans and forecasts estimates which are sometimes quite different from the real situation. The only possible conclusion here is that intensifying the influence of the plan on improving the utilization of secondary material and fuel and energy resources should begin with the organization of reliable records and accountability.

The quality of planning the efficient resource utilization and allocation depends to a decisive extent on norming standards. A considerable percentage (about 40 percent for the republic's industry as a whole) of the current method documentation relative to norming has become obsolete (some norms are 15 to 20 years old) and inconsistent with contemporary requirements and must be reworked. For this reason the use of some types of resources is not normed at all or else the norms are based on actual outlays, regardless of the possible utilization of production and consumption waste. As a result of unsatisfactory information (sectorial and territorial), frequently some ministries have no idea of the norms which are being drafted or which exist in other ministries and departments. The standardization of methodical documentation relative to norming should eliminate duplication resulting in the fact that different sectors have their own methods and instructions



covering identical types of resources and technological processes. Shortcomings in methodical support in the formulation of norms and standards are largely explained by the fact that some ministries have not organized functional administrations in charge of such work or procedures and deadlines for reviewing standardization documents.

Obviously, the revision of norms which legalize the treatment of waste as national property, should play a major role in improving the utilization of production and consumption waste and reorganizing the economic way of thinking of economic managers, as well as intensifying levers and incentives. The point is that a number of managers still consider the utilization of secondary material resources a secondary, a nonmandatory matter. The current regulations of most ministries and departments concerning the legal status of enterprises and production and industrial associations are inconsistent with the requirements of improving the utilization of secondary resources. These legal documents do not reflect the obligation of said economic units to organize their collection and utilization. Attention should also be paid to suggestions already published in the press on drafting in the republic a legislative act on the utilization of waste and production byproducts.<sup>5</sup> A typical example which confirms the inadequacy of using economic levers only and the need to strengthen the duties of economic bodies relative to improving the procurement and processing of various types of waste through corresponding legal regulations and documents is the case of the way the Ukrainian SSR Ministry of Food Industry Enterprises processes fruit pits. Because of their shortage, less than 30 percent of the need for pit oil (raw material for the pharmaceutical and perfume industries) are met. Since no more than 10 percent of fruit pits are used at food industry enterprises and the organizations of the Ukrainian Cooperative Union do not purchase such pits from the population, the production of pit oil is essentially based on imported apricot pits, although inexpensive local raw material is available. Despite the fact that as early as 1984 the food industry enterprises were operating under the conditions of the economic experiment, which significantly increases the role of profit as an asset-forming indicator, no steps were taken in this area to eliminate losses running into the thousands.

The comprehensive utilization of mineral and raw material resources is frequently held back by narrow departmental interests of individual sectors. In his consideration of this problem, V. V. Shcherbitskiy pointed out that "...departmental lack of coordination and the orientation of some ministries and departments only toward the production of a single item as well as the inadequate economic incentive for the comprehensive utilization of resources involved in economic circulation are major obstacles in resolving the problem of converting the national economy to the comprehensive utilization of all types of raw materials."<sup>6</sup> An example of this is found in the use of agricultural offal (a side-product of starch-molasses production) as a heat-insulating material in steel smelting, replacing amorphous graphite which is in very short supply. Its use, according to specialists, would allow us to increase steel production by 1-2 percent per year and to save 8-10 million rubles in capital investments.

The enterprises in the agroindustrial complex do not make sufficient efforts to use defecate in soil liming. Nor are fluorescent tubes collected and



processed (assessed at 50 million pieces per year), the dumping of which pollutes the environment with mercury. The amount of waste paper collected does not meet the respective needs of the national economy. Despite available possibilities and resources, there will be a shortage of 76,000 tons of this item in 1985. So far the republic has not organized the collection of timber waste at enterprises in the various sectors which process small quantities of timber. As much as 1.5 million tons of such waste is generated.

Instead of installing facilities for treating petroleum residue for use in the production of construction materials, the Kremenchug and Drogobych petroleum refineries have set up facilities for burning it.

So far the housing and communal economy of the republic makes no use of the experience acquired in the country (Leningrad, Minsk) on processing solid residential waste, the collection of which totals 43 million cubic meters annually. Instead of producing biological fuel and fertilizer for use in greenhouse combines (reducing the time of vegetable ripening by almost a month and increasing yields by 15 percent) and the extraction of ferrous and nonferrous metals (on the level of 200,000 tons, waste paper (up to 150,000 tons), textiles and polymers, the use of galvanic elements (110-120 million pieces), the processing of cans with the possible extraction of as much as 150 tons of tin and obtaining most valuable byproducts (gas, liquid resin, and pyrocarbon, which can replace scarce graphite in the metallurgical industry and is used in the manufacturing of two-ply plastic goods), the Ukrainian SSR Ministry of Housing and Municipal Services has charted a course of building garbage-burning facilities. The Ukrainian SSR State Committee for Petroleum Products has developed an excessively complex system for the formulation, issuance and implementation of plans for collecting and delivering secondary petroleum products by enterprises under union-republic and union administration. No single petroleum marketing base of this department has a system for the regeneration of used lubricants. To this day, the amount of such items has not been assessed, a system for their efficient collection and processing has not been formulated and the separate collection and centralized procurement of collected lubricants from small enterprises, based on the Moscow experience, have not been organized.

The development of the mechanism for putting secondary resources into economic circulation requires comprehensive studies of economic and legal problems by a variety of scientific organizations.

The stipulations of the current economic experiment are such as to increase the interest of enterprises in improving the utilization of production waste. Thus, the local industry enterprises will be issued a plan for the volume of output based on local raw materials and production waste; an additional indicator has been introduced for the enterprises of the Ukrainian SSR Ministry of Food Industry for 1985: assignments on the comprehensive processing of agricultural raw materials. It is of particular interest that the Azovstal Metallurgical Combine, which is included in the experiment, has been allowed to use a certain share of the profit earned from marketing goods manufactured from waste over and above the level reached the previous year, for the development of the production process, bonuses and sociocultural measures.

The economic influence on lowering material-intensiveness in all economic sectors was intensified starting with 1985. Thus, the enterprises of the ministries of electrical equipment industry, power machine building, instrument making, automation equipment and control systems and chemical and petroleum machine building, working under the conditions of the economic experiment, will be able to increase their incentive funds by 10 percent by reducing material outlays (per 1 ruble commodity output) by no less than 1.5 percent; these funds will be reduced should they fail to meet this assignment. As of this year, the responsibility of all enterprises for the economical utilization of material resources will assume exceptional importance: double the value of overspent resources will be confiscated as union budget income on a quarterly basis for enterprise overexpenditures; triple the value of the amount of resources used for nonspecified purposes will be levied.

The CPSU Central Committee decree "On Serious Shortcomings in the Utilization of Secondary Material Resources in the National Economy" (1984) has become a manual for action in increasing the use of production and consumption waste. The measures formulated in the republic, its individual oblasts and all enterprises and organizations, aimed at its implementation will allow labor collectives to concentrate on comprehensively lowering production waste, ensuring the fuller processing of secondary resources and developing a concerned attitude toward the people's good.

#### FOOTNOTES

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## RESOURCE UTILIZATION AND SUPPLY

### SUPPLY SHORTFALLS THREATEN INTENSIFICATION GOA'S

Moscow MATERIALNO-TEKHNICHESKOYE SNABZHENIYE in Russian No 7, Jul 85 pp 13-20

[Article by V. Rybin, doctor of economic sciences and professor at the Economics Institute of the USSR Academy of Sciences: "Intensification of National Production and the Circulation Sphere"]

[Excerpts] 1. The creation and development of a unified national economic complex in our country required intensification of the activities of all the subsystems in the circulation sphere: material and technical supply, the financial and credit mechanism, many forms of transportation, and so on, and the identification and clarification of the functions of each of these subsystems, and hence, their role and place in ensuring the successful functioning of the system as a whole, taking into account the dialectical interconnection and interdependence among these subsystems.

Among these subsystems, material and technical supply plays a leading role, and on the basis of consumer demands it should have a substantial influence on the producers with the aim of coordinating production and the consumption patterns, seeing to it that the products reach the consumers in as short a time as possible and at the least cost; and finally, it should form to a certain degree the requirements and accordingly, the demand for products. With respect to transport, material and technical supply is called on to perform some necessary organizational and coordinating functions, without which it would be impossible to optimize the flow of transport and rational assignment of consumers to suppliers.

Information on the fulfillment of plans for the supply of production and for its renewal, which should be concentrated at material and technical supply organizations under the current system, should be taken into account in the formation and implementation of financial and credit policy. There must be an increase in the effect of the financial and credit mechanism on the production and economic activities of enterprises and associations with the aim of orienting them toward the achievement of high final national economic results.

2. In the circulation sphere the commodity flow and the coincident monetary flow in the national economy intersect and have an interdependent effect on one another. Through improved organization of material and technical supply, circulation should increase the economic incentives for producing final products with minimal quantities of intermediate articles (costs); this applies

specifically to final products that correspond to the pattern of demands that has arisen in the given period, taking into account the constant development of demands. The interests of rational fulfillment of demands predetermine the quantity, quality, and periods for their fulfillment, which in turn reflect the successful functioning of physical production. In this way circulation should help optimize the corresponding parameters of the production and consumption spheres.

Up until recently there had been no success in achieving such a highly effective influence on the part of the circulation sphere on the process of expanded socialist reproduction as a whole. This can be explained to a significant extent by the fact the material and technical supply essentially performs the functions of distributing resources among consumers. Not only does it not have a significant influence on producers with regard to what they produce and when, but also it does not always distribute the goods produced and the resources acquired according to the criterion of maximization of final results.

This situation, together with other factors, leads to significant losses in the national economy and a substantial underutilization of its reserves. It should be stressed that the existing shortcomings are the result not so much of poor organization of material and technical supply, but rather the entire economic mechanism. Supply does, however, play a noticeable role in mobilization of reserves. For example, in pig iron and steel casting the total losses of metal exceed 2 million tons per year, including over 1.7 million tons in filings removed during the processing of the cast metal. These losses could be cut substantially without any major outlays. This is evident from the fact that industrial losses account for about 12 percent of the total metal losses, construction losses account for 25 percent, and operating losses account for approximately 67 percent.

The utilization coefficient for the basic types of rolled metal and castings in machine building is on the average 0.7-0.8. The efficiency of the utilization of metal can be determined by looking at the ratio between the entire volume of smelted steel and the annual volume of rolled metal. Today this ratio is unjustifiably high at 1.44. According to experts' estimates, it is absolutely realistic to expect this ratio to be 1.3.

Major losses of metal occur as a result of inefficient operations on the part of producer enterprises and associations. For example, the existing price formation system, the methods used to evaluate the production and economic activity of enterprises, and the methods of operation used in the financial credit system and supply organs all have an influence on the wasteful production and utilization of ferrous metals. When there is no effective control over the production of economical varieties of rolled metal made of low-alloy steel and high-strength wire, and accelerated construction and development of the corresponding capacities, it is wise for territorial supply organs to have reserves of the most needed types of metal products. By saying this we are not trying to justify the existing shortcomings and the shortages of certain types of products, we are instead taking the realistic approach that it will take a certain amount of time to overcome these problems. The question then arises: where are these reserves supposed to come from? The answer:



from above-plan stocks of goods (in the majority of cases these are goods that are in short supply) that have accumulated at the warehouses of various enterprises.

It seems to us that the statewide system of material and technical supply is supposed to have a substantial influence on central and sectorial planning organs, with the aim of working out plans that take the consumers' interests into account. At present the opportunities for this type of influence are somewhat limited, because in addition to the statewide system there is also a supply system operating within the various sectors (ministries).

3. Organs of Gosstab [USSR State Committee for Material and Technical Supply] can make a special contribution to ensuring the economical utilization of physical resources. For example, in analyzing the consumption of materials in production, one cannot avoid outlining a way to reduce this consumption that involves systematic replacement (renewal) of the materials used.

Unfortunately, in the production process this highly effective method is not always followed. For example, in construction precast reinforced concrete and other heavy materials and structures are used predominantly, and the use of aluminum, structural materials, brick, and plastics is still limited.

If Gosstab organs are assigned a key role in the distribution of production and in coordinating supplies with consumer orders, then the conditions will also be created for these organs to have a tangible influence on the process of transporting the goods and on bringing about a substantial reduction in losses during transport. There are great opportunities in this area for increasing the efficiency of reproduction.

For example, 10 years ago up to 10 million tons of coal were lost annually in the transportation process, which included 5 million tons of coking coal, the most expensive variety. Today there are different estimates of the amount of coal lost: the most optimistic indicate that the situation has not changed. According to data from the Novosibirsk Rail Transport Engineering Institute, losses of iron ore and non-metal raw materials, coke, mineral fertilizers, cement, and other dry cargo total approximately 500 million rubles per year.

At the April (1985) Plenum of the CPSU Central Committee, comrade M. S. Gorbachev stated: "Another reserve that should be utilized decisively is the campaign against waste and losses...There are significant direct losses of physical assets as a result of carelessness in the shipping, storage, and consumption of cement, coal, mineral fertilizers, timber, agricultural products, and food."

It should be pointed out that our country is consistently first in the world in the production of a large number of important types of goods and in terms of freight turnover. Nonetheless, as it has been emphasized repeatedly at plenums of the CPSU Central Committee, the country often has a shortage of these very goods. The reasons for this include irrational use of the goods, the production of a certain assortment and at a level of quality without taking the demand into account fully, and large losses in the process of delivery to the consumer.

Thus, along the path toward more complete fulfillment of our society's growing physical and intellectual requirements, decreasing the losses of resources is becoming an important socio-economic goal. This is also a political goal--a necessary condition for the decisive triumph of the socialist system in its peaceful competition with capitalism.

One of the key directions for increasing the efficiency of national production through intensification lies in the energetic utilization of an entire set of organizational and economic measures. Let us consider, for example, rail transport. There are still serious problems in its operation due to certain overloading of transportation equipment and the high degree of wear found among the rolling stock. In addition, an analysis by an interdepartmental commission for the rationalization of rail shipments under USSR Gosplan [State Planning Committee] and Gossnab showed that the volume of inefficient freight shipments represents between 6 and 7 percent of the total railroad freight turnover. The basic reason for the higher costs of shipments is the increase in the average distance. This trend is clearly evident in the organization of shipments of mineral fertilizer materials.

The effect of the distance of shipments on losses can be illustrated using anthracite as an example. In the last five-year plan the average shipping distance increased by 124 kilometers. There was a substantial increase (3 percent) in the proportion of shipments covering more than 3000 kilometers. A change in the pattern of shipments led to additional losses of coal totalling 160,000 tons, or 2.5 million rubles, based on differentiated zone norms for losses.

In our view, if Gossnab played a leading role in the sphere of deliveries and circulation it would be possible to distribute shipments more rationally among the various transportation systems and to overcome departmental barriers. But even now supply organs can do a great deal by making more rational assignments between suppliers and consumers and organizing wholesale trade for means of production.

Standardized management of enterprises and associations can have a substantial influence on the efficient utilization of physical resources. At present it reflects to a great extent the demands of predominantly extensive forms of management and is in need of a certain re-examination from the standpoint of the demands of intensification of the economy.

This also applies to norms for unfinished construction. Today they are being exceeded by a substantial margin. The level of fulfillment of construction and installation work is lower than the level of the supply of material resources, as a result of which above-norm unfinished construction currently accounts for more than 5 million tons of rolled metal, over 3 million tons of steel pipe, approximately 25 million tons of cement, and about 14 million cubic meters of lumber.

At the April (1985) Plenum of the CPSU Central Committee it was rightfully noted that the construction of many projects takes an inordinate amount of time. As a result, considerable physical assets are taken out of circulation. There are delays in building up capacities and the country does not receive

needed products on time. The plan for putting fixed production capital into operation is not being met satisfactorily. There is a considerable amount of uninstalled equipment standing in warehouses at enterprises and new construction sites.

Large above-norm stocks of commodities and physical assets are also accumulating in the warehouses of many industrial enterprises. These stocks consist primarily of goods that are in short supply because managers are not sure that they will receive necessary materials promptly. As a result, the shortage is heightened artificially, which has a negative effect on the rhythm of the production activity at many enterprises, and sometimes on their fulfillment of production programs. This situation has been going on for many years and apparently requires more serious economic and organizational intervention on the part of supply organs and financial and banking institutions, which should set up solid barriers against irrational practices.

It seems that Gossnab could also make a contribution to improving the utilization of timber raw materials. According to data from the All-Union Economics, Organization, Production Management and Information on the Timber, Pulp and Paper and Wood Processing Industry Scientific Research and Planning Institute of the USSR Ministry of the Timber, Pulp and Paper, and Wood Processing Industry, at present approximately 100 million cubic meters of timber waste products are produced annually, which represents about 28 percent of the lumber being produced. Half of these waste products are not used at all. This year only 39 percent of the by-products will be used for industrial purposes. This figure is even lower in nonspecialized ministries: 4.4 percent in the Ministry of Transport Construction, 4.8 percent in the Ministry of the Coal Industry, 13.5 percent in the Ministry of Rural Construction, and approximately 15.2 percent in the Ministry of Construction

Shifting the economy to a predominantly intensive course of development has made the task of improving material and technical supply particularly urgent. This involves primarily further development of economic ties. Stressing the objective nature of these ties, K. Marx wrote: "Exchange does not create differences between spheres of production, rather it establishes a tie between spheres that are already different, and turns them into sectors of the aggregate national production that are more or less dependent on one another" (K. Marx and F. Engels, "Soch." [Works], 2nd ed., Vol 23, p 364). Through the practice of socialist management some very diverse forms of these ties have developed: direct long-term economic ties, wholesale trade in means of production, a system for funding resources, and so on. The most promising of them, it seems to us, are direct, long-term economic ties.

The 26th CPSU Congress indicated that improvements in economic ties should include expanded use of the system of orders and economic contracts. In recent years a certain amount of work has been done to increase adherence to delivery agreements. The CPSU Central Committee and the USSR Council of Ministers issued a special decree on this issue. The decree outlines effective measures aimed at prompt and complete fulfillment of contract obligations, and specially emphasizes that it is inadmissible to produce goods that have not been ordered and are not in demand, and to use material resources for purposes other than those designated.

A large-scale economic experiment showed that prompt and complete deliveries of goods are not only necessary, but possible. Three ministries of the five that participated in the experiment last year managed to fulfill delivery plans by 100 percent. The number of enterprises under the Ministry of Heavy and Transport Machine Building and the Ministry of the Electrical Equipment Industry that did not fulfill their contract obligations dropped to one-half the 1983 level.

4. Experience shows that more complete fulfillment of consumers' orders and strict adherence to orders are achieved through the development of direct, long-term economic ties. Practice confirms that these ties are very effective. The most important features of ties of this nature include their adaptability to accelerated scientific and technical progress, the creation of more favorable conditions for expanding the operational and economic independence of production associations and enterprises, minimization of stocks, and so on.

The advantages of direct, long-term economic ties, however, are still not enough in evidence. Up until recently there has been little success in avoiding situations in which products have been delivered that were not ordered or were of poor quality, and in which orders were not filled completely.

Poor fulfillment of orders leads to immense losses in the national economy. This is reflected primarily in the consumers' efforts to build up stocks of goods that are as large as possible, and this is especially true of goods that are in short supply.

Estimates show that today commodities and physical assets valued at several billion rubles are diverted to form surplus stocks. Production stocks account for about 30 percent of the total working capital, and 48 percent in industry. This leads to a dual influence on the efficient utilization of material resources. On the one hand, a certain portion of them, in K. Marx's figurative terms, turn from real objects of labor into "potential" objects of labor, and on the other hand, in the majority of cases the heightened shortage of certain types of goods (which is often the result of an unwarranted increase in the stocks of these goods) makes it necessary to replace these goods with other, less efficient products. This is accompanied by an increase in the materials-intensiveness of the products, a decline in product quality, and when no replacement is available, a failure to fulfill the production output plan.

It is important to note that stocks of commodities and physical assets are as a whole growing more rapidly than the gross national product, and that this is true not just for certain types of goods. Between 1960 and 1980 the gross national product increased by a factor of 3.3, and stocks increased by a factor of 4.5. This diverted additional material resources valued at more than 65 million rubles to warehouses and depots.

Poor supply discipline can also explain to a significant extent why each ministry and department tries to create its own facilities for producing general-purpose equipment, its own foundries, its own boiler plants, and so on. This "naturalization" contradicts the very nature of the socialist economy and



leads to an increase in current production costs and a decrease in national labor productivity.

Improvements in the organization of direct, long-term economic ties should be viewed as an integral part of improving material and technical supply and the economic mechanism as a whole. The measures being worked out should be comprehensive and they require a systematic approach. In this connection it is necessary to continue the campaign for 100 percent fulfillment of contract obligations for the supply of goods and to increase the responsibility of all participants in the production process for this work. In spite of the fact that stricter requirements have been made for adherence to supply discipline and the use of administrative and economic sanctions has increased, the plans are still not being fully met. It would be useful, when concluding contracts for the supply of goods in the 12th Five-Year Plan in all sectors, to shift to specific planning of the assortment (profile) of deliveries, taking into account the consumers' orders so as to meet their demands as fully as possible, and to use fulfillment of these orders as the basis for evaluating the economic activity of enterprises. When establishing this assortment, all organs should orient themselves toward the need to ensure better fulfillment of the growing demands of society and its members, since the goal of production, as emphasized at the October (1984) Plenum of the CPSU Central Committee, "...supported by the ever-increasing labor results of the Soviet people, lies in raising the people's welfare to a qualitatively new level and elevating our people's material and spiritual standard of living to a significantly higher level." In addition, constant attention should be given to the need to introduce resource-saving technologies and to all-round conservation of resources.

In a number of sectors it would make sense to switch to accounting of plan fulfillment on the basis of 10-day periods, rather than months, in order to provide the needed production regularity. This would make it possible to improve the operations of production associations and to account more precisely for the influence of supply discipline on the efficiency of national production. In this connection one cannot help but recall the words of comrade M. S. Gorbachev: "How can we expect quality if many enterprises are producing one-half of the products planned for the month in the third 10-day period?"

Assigning a great deal of importance to strict supply discipline, it is also important to keep in mind that the qualitative structure of deliveries should undergo regular improvements taking into account the need for technical retooling of existing enterprises, the use of new, progressive materials, better fulfillment of the growing consumer demands, and in the final analysis, ensuring higher rates of growth in the socio-economic effectiveness of national production. This means that one must not make a fetish, as some economists do, of successes in industrial sectors where the experiment is being conducted, even though these successes are a serious indicator of better utilization of organizational factors in economic growth.

There is evidence that it would make sense to make broader use of long-term contracts, which make it possible to coordinate the long-range interests of producers and consumers and improve the planning foundations for long-range and five-year plans, and specifically plans dealing with scientific and technical progress. In current planning it would be useful to expand the rights of

material and technical supply organs, so that they will have a greater influence on producers. These organs, after all, represent the interests of the consumers. Furthermore, territorial organs of Gosstab can serve as large centers for the accumulation of certain products that individual consignees use in small quantities.

The financial and credit mechanism is still not being used enough in the campaign against the tendency to give priority to regional interests; this mechanism should provide closer coordination between statewide and collective economic interests. Things should be organized in such a way that it would not be profitable for an enterprise (or association) to fail to fulfill contract obligations. The damage caused by failure to adhere to supply discipline that is suffered by the consumer and society as a whole should be compensated as much as possible at the supplier's expense. The effect of the system of sanctions now in force, despite improvements, is only symbolic.

Finally, international direct long-term economic ties should be expanded. In methodological respects these ties differ at the level of sectorial management organs (aimed at coordinating scientific and technical policy in certain spheres and types of production, planning, resolution of balance problems, monitoring the course of cooperation, and so on), and indirect production cooperation at the level of the producers themselves (aimed at integration of efforts in the process of creating the product itself). Expanding the boundaries of direct ties to the international level creates the pressing problem of taking into account the interests of the production collectives that serve as agents. These ties should be based on precise economic calculations, incentives, stimuli, and mutual responsibility on the part of those participating.

Gosstab organs must, in our view, step up their influence on the development of production cooperation in basic sectors of the national economy in CEMA member countries. Currently there are over 1000 bilateral and 120 multilateral agreements on production specialization and cooperation being carried out between the USSR and other CEMA member countries, and they involve several thousand different types of products.

In this connection we must include on the agenda the question of including the lowest management link of a production association (the enterprise) in international cooperation. This issue arose as a result of a change in the nature of foreign economic ties and the expanded list of machine building products included in exports. This confirms the need to strengthen direct long-term international economic ties between primary operating links.

5. The next type of economic ties, which, in our opinion, will undergo further development in the future, is wholesale trade in means of production. Important conditions for this include the creation of certain reserves, strengthening the material base of the supply system, studying demand and taking it into account, and so on. Wholesale trade should be introduced when there is an adequate supply of the resources being distributed (or even a surplus), or when direct ties are made more difficult by a large number of consumers of the same product (in this case the supply organization takes on intermediary functions, in order to relieve the producer of jobs not meant to

be done by the producer). This form of ties is most convenient from the standpoint of optimization of relations between central planning and distribution of resources and the operational and economic independence of the basic links in national production, even though under socialism this cannot be the only form.

Funding has become the most widespread practice in supply operations today. During the years of the first five-year plans, when there was a "famine" of many types of products and goods in the country, widespread utilization of the funding system was a necessity. It played a major role in resolving some important tasks of socialist construction. Now the situation has changed in some essential ways and this system does not correspond fully to the level of development that has been achieved in production. For this reason, the sphere of its influence should be narrowed substantially, and it should be limited to strategic goods, innovations in scientific and technical progress, and other types of products and resources that are in short supply (for the interval of time needed to organize their production in quantities that correspond to the demand), and in several other cases.

In addition, it does not seem appropriate, as some economists often do, to oppose the funding system to systems of direct, long-term economic ties and wholesale trade. Each of these systems complements the other. Clearly, it is another matter to say that the existing sphere in which the funding system is used and the forms of its realization at the current stage are in need of improvements.

6. The economic ties listed here are the main ones, but not the only ones. They serve as the foundation for other forms that are in use, which can be viewed as variations of the basic forms. One of these forms is guaranteed comprehensive supply, when the material and technical supply organ becomes a full economic partner of the consumers and suppliers and acts as an intermediary between them on the basis of cost accounting principles. This form of ties has been used in the investment process in particular, when construction projects included in the state plan for capital construction are switched to comprehensive resource supply through territorial Gosstab organs, on the basis of orders from construction and installation organizations that are determined by their demand, according to the building plans and estimates. Here it is possible to decrease the stocks of means and resources at priority projects. But as yet only six percent of the entire output of machine building is being delivered through this supply system.

In our view, for more complete introduction of comprehensive deliveries into the system of cost accounting relations it would be useful to introduce a rule, according to which the supplier would have to pay a penalty equal to 5 percent of the value of the finished manufacturing line, unit, or assembly when he fails to meet contract obligations for the delivery of equipment, goods, and materials that are part of a complete delivery package. At the same time, when the supplier provides delivery of a complete set of equipment in accordance with the contract and agreed upon technical conditions, the customer must pay the general supplier five percent of the value of the equipment, which is distributed among the enterprises involved in the delivery, and is deposited in their economic incentive funds.



True cost accounting should form the foundation of relations among all those participating in the process of production and circulation: manufacturers, consumers, transportation supply, and sales organizations, financial and credit organs, and so on. The principle of equivalent value exchange should be adhered to both between producers and supply organs and between these organs and the consumers.

The practice of signing long-term contracts for five-year periods, with direct long-term economic ties between suppliers, consumers, and Gosplan organs was an important step in the development of cost accounting relations. It is important for this practice to be implemented on a widespread basis and for it to have an active influence on the intensive action of cost accounting principles, and on their widespread use in the future.

From all the arguments presented, one could conclude that the system of material and technical supply should be "inserted" in a limited way in the country's turnover of goods that involves value turnover. Only in this way will it promote intensification of the money turnover and the turnover of material goods as a whole, which is still slow and costly and does not fully resolve the tasks at hand.

7. Implementation of these proposals for further improvements in the supply system will help increase the balance of plans for the country's economic and social development. Only under this condition will supply and sales organizations be able to take active measures to eliminate the shortage of certain types of goods and surplus accumulation of others.

In our view, special attention should be given to improving the organization of work done by Gosplan organs. Five-year supply plans have still not become the primary form of planning their activities. This leads to a situation in which five-year production plans, which are not backed up by the corresponding plans for material supply, do not have the necessary stability, which in turn has negative consequences even under the conditions of a large-scale economic experiment.

This can be explained to a significant extent by the poor procedural and methodological base supporting the compilation of these plans and organization of their fulfillment. If, after periodical publication in industry of methodological directives for the compilation of plans for the USSR's economic and social development and methodological instructions for working out the five-year plan for associations (enterprises), these issues were resolved in a completely satisfactory way, materials of this nature have not even been developed for material and technical supply. This shortcoming is compensated for to some extent by the availability of a list of indicators and economic norms which should be computed both at the Gosplan level and at the enterprises and organizations under Gosplan, but at the current stage of production development this is not enough.

The planning process should include complete coordination of the production plan and the supply plan. To meet this requirement, standard general sectorial methodological materials should be developed for long-range planning (five

years and longer) of the economic activity of industrial enterprises, associations, and supply and sales organizations, on the basis of a standard methodology for planning the country's social and economic development. In this connection supply organs should be aware of the long-range and current volumes of production output entering the circulation of goods. The effectiveness of supply planning must also be increased, since it depends to a significant extent on the soundness of the planning indicators being used and improvements in their normative base.

The national economic plan should orient Gosplan organs toward further intensification of the process involving the circulation of material resources; the inclusion of indicators expressed both in value terms and physical terms as planning indicators for the accelerated turnover and circulation of all resources could encourage this. Finally, there is a need for a well-organized system of planning indicators describing the effective influence of supply on the production sphere and on rational consumption of goods.

Scientific research organizations in the Gosplan system have done some work to back up norms for warehouse deliveries, fixed capital, working capital, and so on. Management of working capital makes it possible to have an effect on material stocks in the national economy with the aim of reducing these stocks. This management is based on setting norms for working capital, which is one of the important aspects of planning reproduction proportions. Therefore, it should be carried out in conjunction with other important aspects of long-range planning of the national economy, specifically fixed capital, on the basis of goals for scientific and technical progress, reducing the materials-intensiveness and capital requirements of production, and the prospects for developing the production of raw material resources. Currently the requirement for this type of comprehensive approach to setting norms for working capital is going unmet to a great extent.

Under the current conditions, it would be wise, in our opinion, to ship part of the production stocks to the circulation sphere (they are presently dispersed primarily among direct consumers, that is, in the production sphere). This would make it possible to expand the role of supply organs in maneuvering existing resources.

It should also be pointed out that the structure of financial sources of working capital that has developed is not wholly rational; at individual enterprises (or associations) the working capital has been reduced to a minimum, and their operations are carried out at the expense of bank credit. When the enterprise's own working capital, which is supposed to be the primary source for forming standard stocks of physical assets, is at this level, this capital has for all practical purposes a symbolic nature and cannot serve as a cost accounting instrument that could be used to influence the rational utilization, safekeeping, and speed of turnover of working capital; and this has a negative effect on increasing the efficiency of national production.

At the 26th CPSU Congress there was some justified criticism of the situation in which resources are concentrated in one place in amounts that significantly exceed the demand, while in other places there is a shortage of these resources. Up until recently there has been no success in achieving the proper

mobilization of the financial and credit mechanism to eliminate this phenomenon.

In order to correct the situation, first there must be complete coordination of material, manpower, and value balances when working out production plans; everything possible must be done to reduce the interval of time between making advance payments for resources before receiving the final effect from their utilization in the national economy. Coordinated operations of supply and sales and financial and credit organizations and the mechanisms by which the function should play a major role in resolving these problems. For example, it is very important that the credits allocated promote an increase in production efficiency.

8. In our view, improvements should also be made in the economic incentives. A mechanism needs to be developed which would make it unprofitable to make poor use of resources. We feel that it makes sense to introduce a dual payment system for above-norm stocks of goods not backed by credit, increasing payments for uninstalled equipment 3- or 4-fold, and collecting these charges from the individuals responsible.

The planning of material and technical supply should be oriented toward reducing the turnover of resources, circulation costs, and certain fulfillment of delivery plans taking into account deadlines, product assortment and product quality. In this connection, there is a need to return once again to greater operational and economic independence and greater rights for the basic links of the supply system, and they must play a larger role and have greater responsibility both in the formation of supply plans and in their fulfillment.

Of course, it would be wrong to think that the resolution of the problems being considered (and many others) is determined wholly by the degree of improvement in material and technical supply. One must not forget, however, that the circulation sphere can have an active influence on the efficiency of the reproduction process, and under the conditions of developed socialism this influence grows substantially. With the successful functioning of a unified national economic complex, in material and technical supply it is important to provide a gradual transition from a system of distributing physical assets and bringing them to production consumption, to a system that organizes the circulation of all material resources on an economic basis.

Resolution of this long-range task, of course, requires a number of stages. In the current five-year plan there is a possibility of "inserting" the supply system entirely into the mechanism for deliveries of goods, which is oriented toward the consumer, with a clear definition of the functions of Gosplan in monitoring deliveries. At the same time, it is possible to meet the goal of the gradual transition from distribution of products to the sale of products on a commodity and monetary basis, narrowing the sphere of funding and making improvements in it. These will be serious stages in the long-term process of turning supply into an economic system that organizes the turnover of all resources on an economic basis, coordinates the activity of organs in the circulation sphere, and has an active influence on the process of production and consumption of resources.



With the aim of highly efficient utilization of production development funds belonging to enterprises and bank loans for financing outlays on the development of fixed production capital, renewal of active production capital, reconstruction and technical retooling of existing production facilities, preparations for the production of new equipment and the introduction of new technological processes, and the elimination of bottlenecks in production, it is necessary to introduce a rule calling for the fulfillment of any demand for material resources directly through territorial Gosnab organs.

In our view, the development of circulation on an economic basis will mean that the system of material and technical supply will be wholly oriented toward the consumers, and will represent their interests. It is important to strengthen the system of economic levers that will increase the role of the consumer in the supply process. In the course of material supply for production, there must be a reduction in the period between the appearance of demand and its fulfillment, and there must be accelerated development of resource-saving forms of supply. Here, under certain conditions, enterprises themselves should be given the opportunity to carry out sales, for example, decentralized sale of products or surplus stocks by means of equivalent exchange.

This is how we envision the role of the material and technical supply system as the USSR makes the transition to an intensive type of socialist expanded reproduction.

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## RESOURCE UTILIZATION AND SUPPLY

### NEW DECREE IMPOSES SANCTIONS AGAINST RESOURCE SQUANDER

Moscow KHOZYAYSTVO I PRAVO in Russian No 5, May 85 pp 73-76

[Article by G. Shapkina, candidate of juridical sciences; chief, Contract-Legal Department, USSR Gosstab [State Committee for Material and Technical Supply]; passages rendered in all capital letters printed in boldface in source]

[Text] Decree No 404 of the USSR Council of Ministers "On Increasing the Responsibility for the Irrational Use of Material Resources" dated 4 May 1984 took effect on 1 January 1985. Its objective is to secure the strict observance of the procedure for expending material resources. New economic sanctions are instituted against violations of this procedure. They extend to industrial, construction, transport and other enterprises and organizations. An exception is made only for kolkhozes, sovkhozes and other agricultural enterprises and organizations for which a special act on this question has been promulgated.<sup>1</sup>

At the government's behest, on 30 October 1984 USSR Gosstab, the USSR Ministry of Finance and USSR Gosstroy [State Committee for Construction Affairs] approved Instructions No I-2<sup>2</sup> which defined the procedure for applying the responsibility measures contained in the indicated decree. The introduction of new sanctions is a serious stimulus for strengthening discipline in this area.

The question of the unconditional observance and lowering of norms governing the expenditure of material resources is now posed in earnest. The norms presently in effect in industry and in construction are still quite high. Every year the plans of ministries and departments contain targets for reducing material expenditures in production. The significance of these measures is great. In 1984 alone, the saving from the reduction of these expenditures at enterprises belonging to union and union-republic ministries was more than two million rubles. But the potential for savings is not exhausted. "Almost 60 percent of the national economy's additional requirement for fuel-energy resources and rolled ferrous metals," the 15 November 1984 sitting of the Politburo of the CPSU Central Committee noted, "must be met on the basis of their conservation. Intensive conservation targets have also been set for other types of raw materials and supplies. Hence it is obvious that plan targets can be met only if the expenditure norms are strictly observed."

However these demands are not always observed. For example, the 1984 conservation target for such an important product as lumber was met by only one-half. The expenditure of metal, cement, chemical and other products far exceeds the established norms. Organizations and enterprises belonging to the USSR Ministry of the Construction Materials Industry not only did not meet their 1984 cement conservation targets, but even surpassed the cement expenditure norm by more than 6000 tons. Many enterprises in the machine building branches of industry are not meeting their targets for reducing the expenditure of rolled ferrous metals. Among them, the production associations "Ryazselmash" [Ryazan Agricultural Machine Building Plant] of the Ministry of Tractor and Agricultural Machine Building, "AvtoZIL" [not further expanded] of the Ministry of the Automotive Industry, "Stroymash" [Construction Machinery Plant] (Moscow) of the Ministry of Construction, Road, and Municipal Machine Building, and others.

The decree is intended to put an end to this situation.

ENTERPRISES AND ORGANIZATIONS OVEREXPENDING FUEL-ENERGY (WITH THE EXCEPTION OF RAW MATERIALS, FUEL-ENERGY (WITH THE EXCEPTION OF GAS, ELECTRICAL AND THERMAL ENERGY)<sup>3</sup> AND OTHER MATERIAL RESOURCES MUST HENCEFORTH PAY TWICE THEIR VALUE TO THE ALL-UNION BUDGET.

The material resources referred to include various types of raw materials (including ore, minerals, raw materials for light industry, for the food industry, etc.) that have been subjected to initial processing and are being used in production (metal products, cement, slate, chemical products, metalware, etc.) and fuel-energy resources (oil, petroleum products and coal). The decree also applies to the overexpenditure of consumer goods in excess of the norm in industrial consumption and processing (for example, textiles in the sewing industry and other types of production).

The procedure for the norming and accounting of material resources in industry and consumption has its own unique features. They are also taken into account in the application of the new sanctions.

Enterprises in industry, transport and other branches, with the exception of the construction branches, bear responsibility for exceeding the material resource expenditure norms assigned to by higher authority. In accordance with decree No 612 of the CPSU Central Committee and the USSR Council of Ministers (dated 30 June 1981), expenditure norms for the most important types of resources may be approved by USSR Gosplan and USSR Gossnab. In the event of the absence of norms approved by higher authority, norms are set by enterprises and organizations themselves. There is also responsibility for their violation.

Construction organizations bear responsibility for the overexpenditure of material resources in excess of the requirement specified in planning estimates. The so-called "millionik," which is the basis for the allocation of the necessary resources to construction organizations (per million rubles of construction and installation work), is not applicable in such cases.



The overexpenditure of material assets and responsibility therefor must be determined and applied on the basis of quarterly statistics. In the case of seasonal enterprises that process agricultural perishables (raw materials), the excessive expenditure of resources (in excess of the norms that are recalculated with regard to the quality of the raw materials received) will be determined on the basis of the totals for the season and will be counted in the quarter in which the processing was completed. The overexpenditure of material resources in construction must be determined on the basis of finished projects commissioned in a given quarter. Report form M-29<sup>4</sup> (approved by the USSR Central Statistical Administration), which compares a project's normative requirement for materials with their actual expenditure during the entire period of construction, is used for this purpose. This report is completed for every construction project. If there are several organizations participating in a construction project, each of them bears independent responsibility for the overrun. Excessive expenditures of materials in these cases are determined for specific types (cycles) of work completed in the quarter covered by the report and accepted by the general contractor from the subcontracting organization, which is answerable for its actions. After a construction project is completed, the general contractor determines the quantity of materials expended by the general contractor proper and also bears responsibility for overexpenditures.

The overexpenditure of material resources can also be ascertained by checks conducted by agencies of USSR Gosplan and by other agencies vested with such oversight functions (USSR Stroybank [All-Union Bank for Financing Capital Investments] agencies in construction, for example).

Enterprises and organizations committing overexpenditures must voluntarily pay twice the value of the overexpended resources to the union budget. The payment should be made within a month following the end of the quarter covered by the report. Managers and chief bookkeepers bear responsibility for making the payment.

Decree No 612 of the CPSU Central Committee and the USSR Council of Ministers "On Intensifying the Effort to Make Economical and Rational Use of Raw Materials, Fuel-Energy and Other Material Resources" (dated 30 June 1981) charged USSR Gosplan agencies with the oversight of the rational utilization of resources. Their functions were expanded with the publication of decree No 404 dated 4 May 1984. Territorial USSR Gosplan agencies must see to it that enterprises or organizations committing violations in their regions pay their fines on time. They perform this monitoring function for the entire list of products sold through this system, including the list of products in the state plan for the nation's economic and social development, of USSR Gosplan and USSR Gosplan.

In the case of products, the distribution and sale of which are the responsibility of ministries and departments, the oversight function is exercised by their agencies. They include, for example, organizations belonging to USSR Goskumnefteprodukt [State Committee for the Supply of Petroleum Products], Soyuzglavlegpromsyrye [Main Administration for the Delivery of Raw Materials to Light Industry] (USSR Ministry of Light

Industry), and Soyuzpishchepromsyrye [Main Administration for the Delivery of Raw Materials to the Food Industry] (USSR Ministry of the Food Industry) (which are responsible for the raw materials distributed by them to light industry and the food industry, respectively), etc. Enterprises and organizations are obligated to inform the indicated agencies of the payment of the corresponding sums to the budget within 3 days of payment. In the event enterprises and organizations do not voluntarily pay these sums, local financial organs will collect them without recourse to the court on the basis of orders of territorial agencies of USSR Gosplan and corresponding agencies of ministries and departments. It should be noted that ministries and department-fundholders are not vested with this right since the decree of the USSR Council of Ministers "On Increasing the Responsibility for the Irrational Use of Material Resources" understands distribution agencies to be those that distribute material resources to fundholders. Nor may USSR Srobybank agencies issue collection orders. If they discover overexpenditures of resources at construction projects, they should notify territorial agencies of USSR Gosplan or corresponding agencies of ministries and departments so that they may invoke the appropriate sanctions. The Instructions specifies the procedure and time frame for invoking sanctions.

The reports that list the overexpenditures cannot always contain all the data required to issue a sanction order. The issuing agency is entitled to request enterprises or organizations to furnish additional information (details on the products list, price). If necessary, an additional check can be made.

In the interest of promoting the earliest possible introduction of scientific and technical advances into production, the Instructions state that sanctions for the overexpenditure of products are not invoked if the expenditure of individual types of materials in excess of the approved norms is associated with the introduction of technical measures designed to improve the quality, operating and other properties of products. Responsibility does not originate in such cases if the appropriate changes have been made in the technical documentation pertaining to these products (standards, specifications) according to the established procedure. The justification for the actual expenditure must be confirmed by the necessary documents, e. g., accounting data on the expenditure of materials per unit of output and report data on the number of products produced. This procedure will remain in effect pending the revision (expiration) of previously adopted norms. Sanctions are not invoked against construction organizations for the overexpenditure of material resources that is due to change in design that is accompanied by the necessary amendments in design plans and estimates.

One reason for the overexpenditure of material resources is the breach of contractual obligations by some suppliers (violation of product mix, delivery of lower grade (quality) products). The government decree states that if the supplier is to blame for the overexpenditure, the enterprise or organization committing the overexpenditure is entitled to demand restitution for damages resulting from the payment of the corresponding fines. Such demands may be made against any supplier breaking the contract--a manufacturing enterprise; a supply-sales, procurement or other organization that maintains contractual relations with the given customer. Demands for the compensation of the

indicated losses are formal claims rather than claims that exclude recourse to the court. When a contract is concluded with a supply-sales, procurement or other organization and the goods are shipped directly in through transit by the manufacturing enterprise, when goods are shipped in violation of the terms of the contract, claims should be filed against the organization supplying goods under contract but also against the manufacturer (shipper). Responsibility is assigned to the party that is to blame for the violation. The plaintiff filing an arbitration claim must submit proof not only that the supplier has not properly met the terms of the contract, but must also demonstrate the relationship between this breach and the overexpenditure, and must also indicate whether he has taken measures to reduce the magnitude of the overexpenditure. In particular, the plaintiff must prove that during this period he did not have a carry-over inventory of the necessary products, etc.

Higher demands are made on enterprises and organizations for using material resources in strict conformity with their planned purpose. FOR USING RESOURCES DISTRIBUTED ON A PLANNED BASIS FOR OTHER THAN THEIR PLANNED PURPOSE, RESPONSIBILITY IS FIXED IN THE AMOUNT OF THREE TIMES THEIR VALUE. This refers to instances when enterprises and organizations use resources allocated for the fulfillment of the plan for work not covered by the plan, for repair and operational needs. The same measure of responsibility will be applied when resources are used to produce in excess of the plan products that are in limited demand and that are on the list of items, the overfulfillment of which is prohibited. These lists are approved by USSR Gosnab<sup>5</sup> and are communicated to ministers, departments and enterprises.

In all instances, the threefold cost of products used for other than their intended purpose is collected by local finance organs on the basis of collection orders issued by territorial organs of USSR Gosnab or the appropriate agencies of ministries and departments responsible for the distribution and sale of the products. The mandatoriness of voluntary payment has not been established here. In addition to the agencies previously mentioned, soyuzglavkomplekt's [main administrations for supplying equipment, instruments, cable and other items to especially important construction projects in the coal, oil and other branches of industry under USSR Gosplan], upon discovering the misuse of equipment and products delivered by them to enterprises under construction or reconstruction, are also empowered to issue collection orders.<sup>6</sup> While verification acts are the usual basis for issuing collection orders here, they can also be issued on the basis of statistical reports containing the necessary information (for example, on the above-plan production of restricted products). The value of products (for the purpose of applying sanctions) is based on the prices that are paid (or should be paid) by the customer.

In the process of applying sanctions for the misuse of products, it is essential to differentiate precisely between the responsibility established by Decree No 404 (dated 4 May 1984) of the USSR Council of Ministers and other acts involving the unlawful use of material assets for unplanned purposes, which require the application of other legislated measures of responsibility. The reference is to the unauthorized release of products by manufacturing enterprises (suppliers) and the use of such products for their own needs in excess of allocated funds and to the sale of material resources by customers



to other enterprises and organizations in violation of the established procedure.

As is known, for the unauthorized release of products scheduled for planned distribution and for using these products for their own needs in excess of the allocated funds, manufacturing enterprises bear responsibility fixed in paragraph 88 of the Statute on the Delivery of Products (paragraph 87 of the Statute on the Delivery of Commodities): from 25 to 100 percent of the value of the products released (used). Enterprises and organizations selling products received for planned needs to other enterprises and organizations in violation of the established procedure will bear responsibility under paragraph 23 of Decree No 732 (dated 31 July 1981) "On the Procedure for Selling Above-Norm and Unutilized Material Assets."<sup>7</sup> Sanctions fixed in paragraph 2 of the decree of the USSR Council of Ministers "On Increasing the Responsibility for the Irrational Use of Material Resources" are applied only when material resources received on a planned basis are misused directly by the customer enterprise (organization) itself (but are not sold to other enterprises).

In addition to measures of responsibility, Decree No 404 (dated 4 May 1984) of the USSR Council of Ministers contains a norm that stimulates the more economical expenditure of raw materials, supplies, etc. The norm states that material resources economized by enterprises and organizations in excess of the established norms and targets may be used by them to expand the production of goods that are in demand, to build facilities that are financed by noncentralized sources and for repair and operational needs. The "price" of the resulting saving can be judged on the basis of the following figures: a one percent saving of resources in construction alone makes it possible free 400,000 tons of rolled ferrous metals, 1.26 million tons of cement, 2.5 million m<sup>3</sup> of concrete and 1 million m<sup>3</sup> of lumber each year.

Since economized materials can be used to build facilities financed from noncentralized sources, enterprises and organizations are entitled to use them for these purposes for construction by the direct labor method and to transfer them to construction organizations operating on a direct contract basis. In the same way (direct contract), enterprises and organizations can transfer part of the economized resources for the construction of local motor roads (in a quantity corresponding to the volume of work to be performed according to the target assigned to a given enterprise or organization). In other cases, the transfer of resources allocated to enterprises for the fulfillment of construction plans to road construction is not authorized. Economized material resources may be transferred to technical training schools and other educational institutions for production training purposes.<sup>8</sup>

Some readers asks whether economized material resources can be used to render sponsorial aid, inter alia, to kolkhozes, sovkhoses, children's and medical institutions, etc. In such cases, existing legislation not modified by Decree No 404 of the USSR Council of Ministers dated 4 May 1984 must be the guide. By way of rendering sponsorial aid, associations and enterprises are entitled, for example, to accept orders for the performance of work and the manufacture of products in excess of the plan from their own materials and production waste if this is not detrimental to the fulfillment of the state plan and



contractual commitments.<sup>9</sup> Economized material resources can be used to fill such orders.<sup>10</sup> Enterprises themselves are also entitled to sell (release) to sponsored organizations material assets that are not being utilized and that are not drawn into material circulation according to the established procedure.

The right to their independent sale occurs when higher agencies of enterprises and organizations and territorial agencies of USSR Gosplan refuse to redistribute (sell) these assets or when the agencies do not respond within the deadline to the report that enterprises (organizations) are in possession of unutilized products.<sup>11</sup>

In cases covered by law, the necessary equipment and materials are transferred to educational institutions and certain medical and children's institutions free of charge

The unauthorized release of products and their use by manufacturers for their own needs in excess of allocated funds continues to be one of the most serious and frequently encountered breaches of state planning discipline. In 1984 alone, USSR Gosplan agencies discovered more than 3600 such violations, which resulted in more than 112 million rubles in fines, including approximately 40 million rubles for the unauthorized release and unfunded use of metal and almost 35 million rubles for the unauthorized release and unfunded use of lumber. In the interest of averting such breaches, which sometimes conceal direct abuses, Decree No 404 of the USSR Council of Ministers (dated 4 May 1984) articulates additional measures for exerting economic pressure on the manufacturers (suppliers) releasing them. Products (commodities) that are released for use without authorization (without funds [fondy] or in excess of allocated funds [fondy]) and will not be counted toward the fulfillment of enterprises' plan targets for bonus purposes and for the formation of economic incentive funds. Enterprises must pay the profit derived from the sale of such products to the union budget within 20 days of the end of the quarter in which the breach occurred (the mandatory nature of voluntary payment is also introduced here). If the proper sums are not paid to the all-union budget within this time, they become subject to collection on the basis of collection orders issued by territorial agencies of USSR Gosplan or the corresponding agencies of ministries and departments. According to the Instructions, in the evaluation of the fulfillment of the profit plan, actual profit must be reduced and in the case of unprofitable enterprises (enterprises that are unprofitable for other types of products), losses are increased by the sum of profits that must be paid to the budget. These norms are applied to manufacturers of products and commodities.

In accordance with Decree No 404 dated 4 May 1984, collection orders for penalties to be paid into the all-union budget must be issued in the shortest possible time. The Instructions emphasize this point while restricting the maximum time for issuing collection orders to 6 months. This time is calculated in the process of issuing collection orders on the basis of ex post data from the time the appropriate agency receives the report and when they are issued on the basis of verification acts--from the time of compilation of the act (if the report of the enterprise or organization lacks information on

the given breach). Collection orders are issued according to the approved form and are signed by the head or deputy head of the issuing agency.

The decree also provides for measures aimed at the observance of rules governing the writeoff of losses of products and commodities in the process of shipment and storage within natural limits and at assigning responsibility for their violation.

The sanctions introduced by the decree must be applied independently of other responsibility measures contemplated in legislation. For example, the unauthorized release of products to the manufacturer-supplier is penalized by fines under paragraph 88 of the Statute on the Delivery of Products and by sanctions established under paragraph 3 of Decree No 404 of the USSR (profit taxation by the budget, etc.). In the event of the overexpenditure of products for own needs in excess of allocated funds, manufacturer-suppliers will bear the same responsibility and if they have overexpended products in excess of the norm set for the manufacture of some product, sanctions will also be invoked for the indicated violation (the sanctions will equal two times the value of the product expended in excess of the established norms).

An all-union budget collection order for the corresponding sums may be appealed within 10 days to agencies superior to the issuing agencies. Appeals must be examined within 30 days. In the event the collection order is rescinded, these sums may be refunded within a year of their payment to the budget.

The responsibility of enterprises and organizations for the irrational use of material resources must be combined with demandingness regarding specific guilty officials. The continuous interaction of agencies belonging to USSR Gossnab, USSR Goskomnefteprodukt and others with people's control agencies and the procuracy is important here.

The aim of Decree No 404 of the USSR Council of Ministers dated 4 May 1984 is to prevent the irrational use of material resources and to promote conservation. Every violation of these demands must be regarded not only as the basis for applying economic sanctions, but also as a signal that measures must be taken to eliminate violations and their causes. The efforts of the enterprises, organizations and USSR Gossnab agencies as well as other agencies exercising oversight in this sphere must be directed to this end.

#### FOOTNOTES

1. It will affect only those enterprises and organizations that are directly connected with agricultural production while not affecting, e. g., interfarm organizations engaged in rural construction. These organizations, like all construction organizations, must answer for the irrational use of material resources based on the norms of Decree No 404 of the USSR Council of Ministers dated 4 May 1984.
2. Hereafter referred to as the Instructions.

3. For the overexpenditure of gas, electric and thermal power, a five-tenfold higher payment is demanded in keeping with the previously established procedure.
4. Order No 613 of the USSR Central Statistical Administration dated 24 November 1982 approved Instructions on the Procedure for Compiling Reports Based on Form M-29.
5. The list for such products for the year 1985 was approved by Order No 43 of USSR Gossnab dated 25 February 1985.
6. Supplement to Instructions No I-3 adopted on 19 December 1984.
7. USSR Gossnab, USSR Gosstat and a number of other departments have proposed raising increasing responsibility for the unauthorized release of products and bringing it into line with the sanctions established by Decree No 404 of the USSR Council of Ministers dated 4 May 1984 for the misuse of products.
8. The right of enterprises and organizations to transfer material assets for to educational institutions for the indicated purposes is specified in paragraph 18 of Decree No 732 of the USSR Council of Ministers dated 31 July 1981.
9. See paragraph 64 of the Statute on the Production Association (Combine) paragraph 48 of the Statute on the Socialist State Production Enterprise.
10. This is discussed in the supplement to Instructions No I-1 adopted on 6 March 1985.
11. Points 6, 9 and 10 of Decree No 732 of the USSR Council of Ministers dated 31 July 1981.

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REGIONAL DEVELOPMENT

GSSR GOSPLAN OFFICIAL ON NEW REGIONAL PLANNING APPROACH

Tbilisi ZARYA VOSTOKA in Russian 18 Jul 85 p2

[Article by Otar Kakauridze, vice-chairman of the GSSR State Planning Committee, under the rubric "Poti: From Experiment to System": "Improving Territorial Planning"]

[Text] The 13 July 1985 issue of Zarya Vostoka told readers about the financial and economic relations among participants in the Poti experiment. Today we offer an article by Otar Kakauridze, vice-chairman of Georgia's Gosplan, about the improvement of territorial planning in conditions of the experiment that is being conducted.

In connection with the experiment that is being carried out in Poti and other cities in accordance with the well-known decree of the CPSU Central Committee, Presidium of the USSR Supreme Soviet and USSR Council of Ministers on further enhancing the role of the Soviets of People's Deputies in economic construction, the influence of local agencies on the activities of the city's entire economic complex is being strengthened, and a system of planning and management is being created that contributes to the more complete exercise of the local Soviets' rights in the area of land use, nature conservation, construction, the utilization of labor resources, the production of consumer goods, and the provision of social, cultural and consumer services.

Just what are the concrete expressions of the improvement of territorial planning in conditions of the economic experiment that is being carried out?

In the first place, the level of comprehensiveness of territorial plans is being raised. The comprehensive territorial plan for social and economic development is being turned into the main form of planning the development of the economic complex of cities and rayons. In this connection, composite, comprehensive territorial planning for the principal social and economic indices encompasses both the current and long-range development of the region.

Under former conditions, i.e., prior to the experiment's beginning, the plans transmitted by the ministries and departments to the enterprises did not always ensure a highly efficient utilization of material and labor resources and of existing production capacity. At the enterprises poor use was made of production by-products, and above-normative stocks of raw materials and

other materials would accumulate, which caused a slow-down in the turnover rate of working capital. Up-to-date consumer goods were slow to be put into production, and inadequate use was made of the potential for producing output bearing the state Seal of Quality. There was a lack of close production and economic-management ties among enterprises and organizations located within the territory of one and the same city, as a result of which substantial production reserves of an interbranch nature went unused.

The composite comprehensive territorial plans organically tie together indices for the development of all the enterprises of various branches of the economy that operate within the city. In this connection, as early as the stage of preplan work the main goals of social and economic development are formulated by the territorial interbranch associations, and the most efficient ways of achieving them are defined.

The territorial interbranch associations examine the preplan proposals presented by the enterprises and organizations and make adjustments in them with a view to the additional enlistment of reserves, the fuller utilization of production capacity, the maximum use of material resources, etc. Thus, in the course of drawing up the draft comprehensive territorial plan for this year in Tbilisi's Zavodskiy Rayon, it was ascertained that 19 of 54 industrial enterprises in the rayon had planned their work in such a way that there was a lag in their rates of production growth. An analysis made by the rayon territorial interbranch association of unutilized production capacity at these enterprises made it possible to prepare substantiated proposals for the possibility of increasing production volumes by 12 million rubles for the rayon's enterprises as a whole.

The comprehensive territorial plan for a region's social and economic development that is drawn up on the basis of the preplan proposals of the enterprises and organizations belonging to a territorial interbranch association do not represent a simple compilation of the enterprises' draft plans that have been worked out by the ministries and departments. Territorial planning in conditions of the regional economic experiments takes into account the specific conditions of a region's development and the potential of the enterprises and organizations that are located there.

In conditions of the economic experiment, the social orientation of territorial plans is strengthened. The entire economic mechanism and the entire system of the distribution and redistribution of the planned and above-plan revenues of the territorial interbranch associations are subordinated, in the final analysis, to the interests of the further development of the social infrastructure--the improvement of the provision of social, cultural and consumer services to the population, the improvement and beautification of the city's territory, the implementation of environmental-protection measures, expansion of the production of consumer goods and improvement of their quality, the better utilization of local raw-materials resources and production by-products. In conditions of the experiemnt that is being carried out, in 1984 alone funds totaling 260,000 rubles were transferred for the improvement of Poti, 30,000 rubles was transferred for development of the trade network, 1,500 rubles was transferred for public health, etc. Consequently,

territorial plans spell out in detail the degree of participation of each enterprise, regardless of its departmental affiliation, in cultural construction. This enhances the responsibility of the executives of enterprises and organizations for satisfying the city's social needs.

In the territorial interbranch associations, which possess a powerful management apparatus, territorial planning acquires an entirely new significance; this is expressed in a substantial improvement in the level of scientific substantiation of measures that are included in regional plans, and in a fuller taking into account of specific local features and historically established traditions of social and economic development. The accomplishment of this task is not within the capability of the planning committees that presently exist within the Soviet executive committees because of the relatively small size of their staffs and the inadequate qualifications of their specialists. A strengthening of the planning agencies and the quantitative growth and qualitative improvement of their composition will yield positive results in the territorial planning of social and economic development.

This is clearly confirmed in the example of the operation of the Kutaisi and Rustavi territorial interbranch associations, not to mention the Poti Territorial Interbranch Association and the one in Tbilisi's Zavodskoy Rayon.

The work of the Kutaisi Territorial Interbranch Association demonstrates a genuinely scientific approach to solution of extremely important national economic problems, in which no small role is played by the practical utilization of the results of research done by the Kutaisi department of the Georgian SSR Gosplan's Research Institute of Economic Planning and Management. This has made it possible to work out substantiated proposals for the draft plan for Kutaisi's economic and social development for the 12th Five-Year Plan. These proposals are fully consistent with the interests of the economic and social development not just of the city and republic but also of the appropriate union-administered branches.

The great potential for improving regional planning under the conditions of the territorial interbranch experiments can also be judged from the example of the work of the Rustavi Territorial Interbranch Association. Despite the relatively brief time that the association has been in operation, analytical and planning work has been fundamentally improved in it. At the present time it is working out and coordinating with appropriate USSR ministries a long-term comprehensive program for the city's social and economic development. The program's practical implementation will make it possible to substantially increase the city's industrial potential and the quality of the population's social life.

Thus, in conditions of the carrying out of the economic territorial interbranch experiments, a substantial improvement is being made in many aspects of territorial planning.

At the same time, the experience that has been acquired indicates that the territorial interbranch planning requires further development and improvement. Economic innovations have entered the stage of development at which the more

active inclusion of union enterprises within the economic experiments' orbit it being demanded more and more urgently. Implementation of the planning of territorial interbranch associations solely for the range of enterprises, ministries and departments that are under republic and local administration cannot provide a clear and exhaustive picture of the activities of such associations and does not permit a realistic appraisal of the regional experiments as a whole. Consequently, it is essential to work out ways and means for the union ministries to participate in the experiments that are being carried out.

Consideration also needs to be given to the question of conducting analogous experiments under the conditions of the operation of the rayon agro-industrial associations, i.e., within the so-called agriculturally oriented rayons. Based on the example of many of the republic's rayons, one may conclude that the need to do so has now arisen. The research organizations, together with the republic's central interdepartmental agencies, must consider this question in depth and begin the experiment's practical implementation in several of the republic's rural rayons as early as the 12th Five-Year Plan.

The experience that has been gained in the process of carrying out the experiment and an analysis of the present system of territorial planning indicate that the need for the establishment of territorial planning services within the ministries' system is becoming increasingly acute with every passing year. This question has been put before the USSR Gosplan for a number of years now, and not by our republic alone. Last year the USSR Gosplan worked out proposals for enhancing the role of the Councils of Ministers of the union and autonomous republics, as well as that of local Soviets, in coordinating plans for economic and social development for their respective territories. In order to improve territorial planning within the ministries and departments, the establishment of structural subdivisions for territorial planning was envisaged. However, the matter has still not been finally resolved, which is holding back the activation of work to improve territorial planning. A positive resolution of this question would make it possible to work out not just the branch but also the territorial aspects of annual and five-year plans as early as the stage at which drafts are drawn up.

It should be noted here that the economic experiments and the tasks of improving territorial planning insistently require a further improvement of the system of statistical reporting. The lack of systematic and systematized regional statistical reporting in our republic makes it impossible to manage social and economic processes at the local level in a responsive manner, to determine assignments for ensuring the fulfillment of projected plan parameters and convey them to local enterprises in a timely fashion, and to analyze in depth the present state of and trends in the social and economic development of the respective cities and rayons. Consequently the organization of regional statistics is an urgent necessity, without which it will be difficult to achieve an improvement of territorial planning and management.

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## GREATER ROLE FOR LOCAL SOVIETS IN UZBEK ECONOMY ADVOCATED

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[Article by K. Akhmedov, deputy chairman, Council of Ministers, chairman of UzSSR Gosplan: "Tasks of the Local Soviets with regard to Strengthening Plan Discipline and Improving Economic Work"]\*

[Text] The core of the CPSU's economic policy under present-day conditions is the course aimed at taking all measures to increase the efficiency of public production, converting it predominantly to the intensive path of development. This is conditioned by the fact that our country has now entered upon a new stage--the stage of mature socialism, which is characterized by profound qualitative changes in all spheres of public life.

The basic directions of the activities of the party and the people at this stage were defined by the 26th CPSU Congress, and they were developed and specified in the decisions of the subsequent Plenums of its Central Committee. At the Extraordinary March Plenum of the CPSU Central Committee it was emphasized that the further improvement and development of democracy, of the entire system of socialist self-government of the people has emerged at the present time as one of the basic tasks of the Soviet state's domestic policy.

Deepening the socialist democracy is inextricably bound up with further increasing the role of the Soviets of People's Deputies at all their levels in the matter of directing the planned development of the economy, improving the economic mechanism, and the entire system of administration.

As a result of the consistent implementation of this principled line, the qualitative raising of the level of party-political leadership during the last few years there has been a considerable broadening of the rights and functions of the Soviets, through which, in accordance with the Constitution of the USSR, the people exercises the complete state power in the country.

Constituting the political foundation of the state and uniting in its own hands the functions of legislation, governing, and exercising controls, the

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\* This article has been prepared on the basis of materials drawn from a republic-level seminar-conference of ispolkom chairmen from rayon and city Soviets of People's Deputies.

Soviets form the most important links in the state apparatus; they adopt decisions with regard to the basic questions of political, economic, and social development, they monitor the execution of the laws, and, what is particularly important, they allow the broad masses to take part in administering the affairs of state.

The most important sphere of our life is economics. Its successful development creates a firm material footing for social and spiritual progress, a reliable foundation for the international authority and might of our Motherland. At the present time the principal efforts of the party and the people are being concentrated on the problems of intensifying public production, the growth of its efficiency, a major increase in labor productivity, speeding up scientific and technical progress, taking all measures to economize on all types of resources, improving the economic mechanism, strengthening discipline and good organization in work.

As is known, the 16th Plenum of the CPSU Central Committee pointed out that the consistent solution of these major problems requires the further improvement of all economic work, instituting order in all sections of economic construction, the strictest possible observance of plan discipline, fulfilling and over-fulfilling the assigned tasks of the state plan with respect to all indicators.

During a relatively brief period of time this republic's labor groups, thanks to the enormous help of the CPSU Central Committee and the Soviet government, the daily political and organizational work of the CPSU Central Committee, the party and Soviet organs in the localities with respect to the unwavering performance of the program positions of the 16th Plenum of the CPSU Central Committee, have achieved notable positive shifts in developing production forces and increasing production efficiency.

As a result of the measures which were adopted, there has been an improvement in the utilization of capacities in industry, and, as compared to last year; there has been a rise in the level of the return on investment at the operating enterprises. Material outlays have been substantially reduced as calculated per ruble of output, and economies on the wage fund have been provided on the order of 238 million rubles.

There have been significant qualitative shifts in cotton growing--for the first time in recent years the output of cotton fiber has substantially exceeded the plan amount. The qualitative indicators have been improved in silk cultivation, as well as in other sectors of agriculture and livestock raising.

Notable improvement has been achieved in capital construction, in transport and in communications, as well as in the sectors of the non-production sphere and public services.

The most important national economic result of the implementation of the decisions of the 16th Plenum has been the strengthening of state, plan, and labor discipline, the elimination of the negative phenomena and violations of the norms of socialist management which have taken place, and instituting the

necessary order in financial activities, as well as in the system of book-keeping and accountability.

Of great importance in solving all these problems was activating the work of the ispolkoms of the city and rayon Soviets, which, in full accordance with the decisions of the April (1984) Plenum of the CPSU Central Committee, have begun to make broader use of their enormous rights and powers with regard to influencing the course of economic construction, the growth of production efficiency, and to combine more fully the territorial and the sectorial principles in administration.

In the light of the positions taken by the CPSU Central Committee, the Presidium of the Supreme Soviet, and the USSR Council of Ministers on upgrading the role to be played by the local Soviets of People's Deputies in economic construction, at the present time these Soviets are charged with the complete responsibility for the condition of the economy on their territory.

In accordance with this, the Soviets are including in the five-year and one-year plans for the socio-economic development of the autonomous republic, as well as the oblasts, rayons, and cities, plans of all enterprises and organizations in the sub-departmental territory, regardless of the jurisdictional subordination, and this has created the foundation for a comprehensive economic development.

There has also been a strengthening of the role to be played by the Soviets in solving the problems of land utilization, environmental protection, construction, use of labor resources, production of consumer goods, as well as socio-cultural and everyday public services.

The Soviets are coordinating the measures intended by the enterprises and associations with respect to growth in the amount of manpower, title lists with regard to the construction of housing, community, cultural-everyday, and environmental-protection facilities, and this facilitates better coordination between production-type construction and the development of the social infrastructure.

Now included among the duties of the Soviets is likewise such an important line of economic work as preparing proposals with regard to the plans of the contract operations of all the construction organizations in a given territory.

The practical implementation of all these measures has allowed us during the years of the current five-year plan to increase the responsibility of the local organs of authority in the matter of more fully satisfying the demands of the population, supplying it with food, expanding the production and improving the quality of consumer goods, developing community housing and the service sphere, and improving all aspects of people's daily lives.

Perfecting the management of the economy by the local Soviets has permitted us to upgrade the role of territorial planning and administration. At the present time the draft plans for the Kara-Kalpak ASSR, the oblasts, rayons, and cities are being worked out with respect to the territory, while the controls

on their performance are conducted with respect to all enterprises, organizations, and farms, including those under Union jurisdiction.

The grounds for justifying the measures being carried out with regard to improving the economic work of the economic organs of power flow from those impressive changes which have occurred during the past few years in the scope and the structure of public production. At present in the republic there is practically not a single rayon or city where there would not be up-to-date industrial enterprises, construction and transport organizations, supplied with up-to-date equipment and technology. Conditions have been created everywhere for raising the vocational-technical level of the workers, the development of culture, health care, and other sectors of the social infrastructure.

These large shifts are a direct result of the fact that, with the day-to-day help and constant concern of the Communist Party and the Soviet government, the republic's national economy is developing at a steady, high pace. Just during the years of the 10th and 11th Five-Year Plans the volume of industrial production increased by 64 percent, while the gross agricultural output grew by 37 percent. During this period enormous funds were earmarked for developing the republic's economy--almost 60 billion rubles; about 400 large enterprises were put into operation, along with 60 million square meters of housing, many schools, children's institutions, hospitals, and other production and social, everyday-types of facilities.

Speeding up the development of the production forces was combined with targeted measures for improving the territorial proportions of public production on the basis of the outstripping growth of oblasts and rayons which have at their disposal prospective land and mineral-raw-material resources, as well as a highly-guaranteed and able-bodied population. Principal attention was paid to such an important trend of economic work as evening out the levels of the economic development of oblasts, cities, and rayons, above all, the virgin lands and those which have been newly formed, as well as the increase in the complexity of their management.

As a result, a significant growth was ensured in the economic potential of the Kara-Kalpak ASSR and all the oblasts of the republic. On the basis of outstripping paces, Syr-Darya, Dzhezak, Kashka-Darya, Bukhara, and Khorezm Oblasts approached right up to, or have already surpassed the average republic level of economic and social development. New sectors have been created, and the structure of industry and agriculture has become more complex in Navoi and Samarkand Oblasts, as well as throughout the entire Fergana Valley.

Great quantitative changes have occurred in the economy of Tashkent Oblast and in the city of Tashkent, which occupy the leading position in this republic's economy.

In line with the trends of the All-Union specialization, an outstripping race has developed in this republic in such present-day sectors as radio electronics, instrument building, electrical engineering and other sectors of machine building, while the fuel-and-energy complex is being strengthened. In order to effectively utilize the resources of agricultural raw materials and increase employment among the growing population, a rapid growth is being provided for the food and light industries.



In deploying industrial enterprises, all manner of consideration is given to the proposals by the ispolkoms of the local Soviets, as well as to the economic and natural conditions of each oblast and rayon. Thus, in Andizhan, Tashkent, and Fergana Oblasts, which have a high supply of labor resources, a number of large enterprises in machine building and light industry have been put into operation in recent years. In Kashka-Darya Oblast with its enormous potential resources of natural gas and mineral raw materials the emphasis has been placed on the high-pressure development of gas processing and the production of building materials; an extremely large gas-chemical complex and large electric-power engineering projects are being created here.

In Navoi and Dzhizak Oblasts non-ferrous metallurgy, chemistry, and the construction industry are being developed at a rapid pace, in Samarkand and Surkhan-Darya Oblasts--the processing of food raw materials, in Khorezm Oblast and the Kara-Kalpak ASSR--sectors of the light and food industries, etc.

The economy of the republic's cities and rayons is being developed in a well-planned and comprehensive manner; herein particular attention is being paid to the populated points formed in the new zone of assimilation. Of enormous importance for increasing the efficiency of this work is implementation of the decisions of the CPSU Central Committee and the republic's government with regard to upgrading the production forces of the small cities and rural rayon centers, creating in them enterprises, branches, and workshops with the involvement of free labor resources in the production sphere.

During the years 1976--1984 alone the small populated points witnessed the creation of 495 enterprises, branches, and workshops with an annual production output of 1.3 billion rubles and a number of employees in them of over 76,000 persons.

Thanks to the specific, business-like help on the part of the Soviets, highly efficient operations are being carried on at the Takhiatash, Sovetabad, Ilichevsk, and Markhamatskiy Branches of the Sredazelektroapparat Association, as well as the branches of the Tashselmash Plant in Syr-Darya and the Uzbektekshtil'mash Plant in Pakhtakor. Good results in utilizing production capacities have been achieved at the branches of the Bukhara Textile Combine in Gizduran and Babkent, the Fergana Textile Combine in Yangi-Yul and Rishtan, and at a number of other production facilities.

As confirmed by the practical experience of recent years, an important role in ensuring effective territorial development is played by the introduction of a program-targeted upsurge in the economies of Dzhizak, Surkhan-Darya, and Khorezm Oblasts, Urgutskiy, Parkentskiy, and Muratinskiy Rayons, as well as the city of Almalyk, and a number of other administrative-territorial units.

A great deal of aid to the local Soviet organs has been rendered by the well-developed, comprehensive programs for the development and deployment of the production forces of the Kara-Kalpak ASSR, Kashka-Darya, Tashkent, Fergana, and several other oblasts, along with the cities of Andizhan, Angren, Bukhara, Tashkent, Leninisk, and others.

Thus, a firm foundation has been created for the ispolkoms of the Soviets of People's Deputies in order to improve all economic work stemming from the heightened level of the economic development of oblasts, cities, and rayons. As a result, many local Soviets have noticeably raised the level of economic-planning work, and this has had a positive effect on the course of fulfilling national economic plans, increasing the effectiveness of production, and the growth of prosperity among the population.

Valuable experience in economic management and strengthening plan discipline has been accumulated by the local Soviets in Namangan, Tashkent, Fergana, Khorezm, and other oblasts, as well as in the cities of Kokand and Andizhan, the Bostanlykskiy, Leningradskiy, Kurganstepinskiy, Serghelinskiy, and a number of other rayons.

At the sessions of the ispolkoms they have begun to examine more frequently questions concerning the utilization of production capacities, labor productivity, return on investment, production costs, profits, product quality, expanding the output of consumer goods and other products made of local raw materials and commercial waste products. Also taking shape here was the practice of a monthly analysis of the progress toward fulfilling the plans, discovering reserves for increasing production, and adopting measures with regard to eliminating lags. There has been an elevation of the standards required of the economic organs which have failed to ensure the fulfillment of the tasks assigned by the plan.

At the same time, as was emphasized at the 16th Plenum of the CPUZ Central Committee, the enormous opportunities and rights granted to the local administrative organs are still being used insufficiently, a fact which exerts a negative influence on the growth rates of economic and social development, on the increase of production efficiency, and, in the final analysis, affects the performance of the tasks assigned by the state plans.

It is precisely this which explains, in no small degree, the serious shortcomings in carrying out a number of the basic tasks of the 1984 plan, including a substantial lag, allowed to occur for the first time in many years, in the industrial growth rate, a disruption in the introduction of fixed capital, as well as the failure to complete the tasks of the plans for production and purchase of a number of extremely important types of agricultural products.

Improvement of economic work and ensuring the fulfillment of plans is determined, to a very great extent, by the necessary approach to the economic development of a city, rayon, or oblast as an integrated whole, regardless of the jurisdictional subordination of the enterprises and organizations within them. At the present-day stage this trend has been put forth as one of the most important in the activity of the ispolkoms of the local Soviets.

In this connection, it should be noted that the organization of this work in the Kara-Kalpak ASSR and in a number of oblasts, particularly in the Kashkadarya, Tashkent, and Syr-Darya Oblasts, continues to be unsatisfactory, while in Dzhizak Oblast there is essentially no comprehensive economic development as yet, which manifests itself, for the most part, in the low quality of comprehensive plans and the lack of monitoring controls over their performance.

There is an extremely low level of managing economic development by the ispolkoms in the cities of Muynak (Chairman Comrade Savarov), Beruni (Comrade Ganiyev), Dzhizak (Comrade Saatov), as well as in the following rayons: Shakhrisabzskiy (Comrade Allanazarov), Kitabskiy (Comrade Karimov), Syrdarinskiy (Comrade Mirzayev), Khavastskiy (Comrade Makhanov), (Comrade Urankulov), and a number of others.

As a result of such an unsatisfactory organization of economic work, even with the availability of considerable production capacities and material-technical resources and a sufficient supply of personnel, during the course of the four years which have elapsed of the five-year plan a lag has been allowed in the tasks assigned by the plan with respect to the volume of industrial output in Bukhara Oblast by 51 million rubles, in Dzhizak Oblast--by 239 million, in Kashka-Darya Oblast--by 283 million, in Syr-Darya Oblast--by 103 million, and in Fergana Oblast--by 146 million rubles.

Failing to cope with the five-year-plan assignments with regard to industrial development, for the most part because of a lack of monitoring controls on the work of enterprises under Union and Union-Republican jurisdiction, were the cities of Khodzheyli, Beruni, Turtkul, Fungrad, Andizhan, Leninisk, Kavan, Gishduvan, Mubarek, Shakhrisabz, Navoy, Chust, Termez, and Denau, along with the following rayons: Kegeyliyskiy, Dzhalsalkudukskiy, Moskovskiy, Karauzyakskiy, Zaaminskiy, Kamashinskiy, Uchkurganskiy, Termezskiy, Akaltynskiy, Bayautskiy, Gulistanskiy, Khazarapskiy, Akhanzaranskiy, Yangiyulskiy, and a number of other cities and rayons.

Particular mention must be made of the utilization by the local Soviets in such an important matter as increasing the production of consumer goods. As is known, during the last few years under the leadership of the party organization a great deal of work has been carried out in the republic with regard to organizing the output of these items at most enterprises with a broadening of the assortment and an improvement of the quality. In 1984 alone an additional 128 enterprises became involved in the sphere of producing consumer goods, and their total number reached 1,045. As a result, the total volume of consumer output amounted to 9.3 billion rubles, and their production exceeded the annual plan by 126 million. This has allowed us to more fully satisfy the public demand for many types of clothing, footwear, a significant portion of household and everyday items, goods of prime necessity and mass consumption.

However, certain ispolkoms of the local Soviets are far from fully implementing their own rights with respect to the supervision, coordination, and monitoring controls over the production of consumer goods, with regard to involving every enterprise and organization without exception in this important cause; they rarely consider the problems of improving the public's supply of goods by means of the existing possibilities.

Not everywhere is the necessary initiative or persistence manifested in expanding the output of the simplest items, utilizing local raw materials and commercial waste products; they are not encumbering the production capacities to the full extent. Thus, in the Kara-Kalpak ASSR the assigned tasks for 1984 with regard to the output of consumer goods were curtailed by one out of every three enterprises, and in Samarkand, Andizhan, and Tashkent Oblasts--by one

out of every four. Moreover, in the autonomous republic consumer goods are produced at only half the enterprises, while in Syr-Darya, Dzhizak, Tashkent, and Kashka-Darya Oblasts one out of every three enterprises does not make them at all.

The managers of the gorispolkoms in question have become reconciled to the fact that, for example, such large, technically well-equipped enterprises as the Tashkent Excavator Plant, the Samarkand Krasnyy dvigatel Plant, the Almalyk Mining and Metallurgical Combine, the Uzbek Refractory and Heat-Proof Metals Combine produce consumer goods amounting to only 10--30 kopecks per ruble of wages.

Up to the present time the production of consumer items has not been organized at the Almalyk and Samarkand Chemical Plants, the Fokand Super-Phosphate Plant, the Namangan Repair Plant of USSR Goskonselkhoztekhnik, or at many other enterprises.

The commissions on the production of consumer goods under the ispolkoms of the local Soviets frequently work in a pro forma manner and do not actively intervene in solving such timely problems as a fuller utilization of local resources and industrial waste products, expanding the scope and forms of work in the home, organizing auxiliary production lines and crafts on kolkhozes and sovkhozes.

But, of course, the gorispolkoms and rayispolkoms ought to be extremely interested in this, since upon the decision of the government as much as half of the above-plan production is permitted to remain at the disposal of the local Soviets for sale to the population on their territory.

Of great importance for comprehensive territorial development are the targeted measures being carried out under the direction of the CP Uzbek Central Committee and this republic's Council of Ministers in regard to improving the sectorial structure of the economy of the oblasts and rayons, as well as upgrading the employment of the labor resources, which create the prerequisites for further enhancing the prosperity of the population.

Practical experience of the last few years has clearly shown that, when the actions of the ministries and the local Soviets are coordinated, success is achieved in solving the problems of recruiting manpower for the enterprises and mastering the capacities, while high technical and economic indicators are ensured. However, in a number of oblasts, cities, and rayons this work has not been placed on a sufficiently high level, as a result of which the intended measures are not being carried out with regard to the construction, introduction, and assimilation of new enterprises, branches, and workshops, as well as their efficient operation.

Thus, in the Kara-Kalpak ASSR last year there was a curtailment of the construction and introduction of brickyards in Nukus and Beruni, a bakery in Namangit, in Andizhan Oblast--a silk-winding factory in Shakhrikhan and a rug-weaving factory in Aima, in Khorezm Oblast a limestone workshop in Urgench, a bakery in Khazarasp, etc.



Already in violation for a long time of the established deadlines for assimilation is the fact that less than half of the production capacity is being utilized by every other branch of the cotton combines. Extremely unsatisfactory work is being done by the branches of the Fergana Combine in Besharyk, of the Andizhan Combine--in Pakhtaabad, of the Kara-Kalpak Association--in Khozheyli, Beruni, and Turtkul. All this has led to a situation whereby during the four years of the five-year plan there has been a shortfall in deliveries, as compared to the plan of almost 60 million square meters of fabric and 12,000 tons of cotton thread.

Serious shortcomings in the organization of the economic work of the ispolkoms of the local Soviets have led to a substantial reduction of efficiency in the agriculture of a number of rayons and oblasts. The low level of mechanization of agricultural operations, violation of the requirements of agro-technology, and large non-production outlays have caused the planned production costs of raw cotton to be exceeded, particularly on the farms of Glavsredamirsovkhozstroy, the growth in the production costs of meat, milk, and the other products of fields and farms.

As a result, despite a considerable increase in purchase prices, the profitability of agricultural production grew too slowly; a number of sectors have remained unprofitable. Thus, the profitability of cotton growing on the kolkhozes of the Kara-Kalpak ASSR and Dzhezak Oblast, the sovkhoses of Andizhan and Fergana Oblasts does not exceed 11--13 percent, on the farms of Samarkand Oblast the figure is 6 percent, while in Navoiy Oblast it amounts to only 1 percent, and all this in comparison with an average republic-wide indicator of 30 percent, which also must be considered insufficiently high.

Such methods of management have led to losses for 223 sovkhoses in the system of this republic's Ministry of Agriculture, above all, in the Kara-Kalpak ASSR and in Dzhezak and Kashka-Darya Oblasts. Finishing last year with an enormous shortage were 15 out of the 108 farms of Glavsredamirsovkhozstroy, as well as 78 out of 258 under the UzSSR Ministry of the Fruit and Vegetable Industry. It was basically the fault of these ministries and departments, as well as the ispolkoms of the local Soviets, that last year there was a shortage in profits by 400 million rubles, while since the beginning of the five-year plan this figure amounts to more than 1 billion rubles. This has seriously complicated the financial situation on many farms, all the more so in that during the current year the deadlines become due for paying off loans in the amount of 1 billion rubles.

An important trend in the work of the rayispolkoms and gorispolkoms consists of the problems of training working personnel, recruiting them for enterprises and farms, and creating the necessary socio-cultural and everyday conditions. It is extremely important to fully assimilate the funds which are being allocated for the construction of housing and other facilities in the non-production sphere, to put in order the precise work of transport, enterprises engaged in trade and everyday services, including those operating directly on the production lines, according to schedules which would be convenient for the workers.

As is known, despite the increasing volumes of housing construction, the guaranteed supply of housing to the population of this republic has grown very

slowly. Under these conditions it is extremely necessary to fully utilize all the existing possibilities and funds. However, certain ispolkoms of the local Soviets have not manifested the necessary persistence in solving the housing problem; they have not monitored the performance of the plan for introducing housing. In 1984 alone there was a shortage of almost 300,000 square meters of housing area, of which almost a third was the fault of the Tashkent Gorispolkom.

This republic is being allocated more and more funds along the lines of the housing-construction cooperatives. However, the Bukhara, Fergana, Tashkent, and several other oblispolkoms, instead of more fully taking into account the demands of the population and setting right to work on this matter, upon examining the draft plans for 1985, made a reduction in the volumes of construction and installation work along the lines of the ZhSK [housing-construction cooperatives]. Poor work in organizing housing cooperatives has been done by the following gorispolkoms and rayispolkoms--Beshkent, Yangi-Yul, Yangi-Yul in Kashka-Darya Oblast, Fanimekh, Novbakhor, Nuratin in Navoiy Oblast, Boz and Pakhtabad in Andizhan Oblast, Amu-Darya, Bozatau, Kungrad, Leninabad in the Kara-Kalpak ASSR, and several others.

While ascribing great importance to the creation of the necessary social and everyday conditions for the workers, the ispolkoms must also fully utilize the rights granted to them with respect to providing enterprises and organizations with manpower, all the more so in that certain of them are systematically short in their recruitment of workers and specialists. These include the Novokokand Chemical Plant, the Tashkent Tractor Plant, the Kara-Kalpak Cotton Association, Chirchikselmash, the Namangan Dairy, the Gazalkent Cannery, and others.

Many construction organizations are experiencing a serious shortage of skilled personnel. With regard to the trusts of the UzSSR Ministry of Rural Construction alone, Nos. 17, 20, and 25 are short by 400--600 persons, Dzhizakstroy is short by 275 persons, etc.

However, the ispolkoms have not taken measures for redistributing manpower from those enterprises which have an above-plan number of personnel. In February of this year alone the republic's industry contained 6,500 persons above the limit, including more than 5,200 under the Ministry of Light Industry alone; considerable work-force surpluses have also been allowed in the enterprises of the Kara-Kalpak ASSR, as well as in Andizhan, Bukhara, Khorezm, and Samarkand Oblasts.

The directors of the local organs of authority must step up their attention to the problems of providing the labor groups with staffs of workers and specialists; they must bring their number into line with the plan, which will create the conditions for a more rational utilization of labor resources and for carrying out the assigned tasks with regard to the development of production.

I would particularly like to dwell on the problems of the accelerated development of the new and virgin-land rayons. At the present time there are about 50 such rayons in this republic, and their role in the growth of industrial

and agricultural output is constantly increasing. Along the line of republic-wide management alone tens of millions of rubles are being earmarked annually for the development of these rayons; however, they are not being utilized everywhere with sufficient effectiveness.

These funds are only 55--75 percent assimilated by the Council of Ministers of the Kara-Kalpak ASSR and by the Dzhizak, Kashka-Darya, Syr-Darya, and the Surkhan-Darya Oblispolkoms. Furthermore, because of gross violations of the state and plan discipline, financial resources are often directed toward other goals.

Thus, in 1984 in the Dzhizakskiy Rayon (Chairman Comrade Saibnazarov) the assimilation of funds amounted to 82 percent, but herein 4 non-plan facilities were built at a cost of almost half a million rubles. In the Nishanskiy Rayon (Comrade Karimov) while the capital construction plan was fulfilled by 46 percent, 7 non-plan facilities were built for 700,000 rubles. An analogous situation took place in the Bozatauz (Comrade Tlemuratov), Nukus (Comrade Khalmuratov), and Ellikkalinskiy (Comrade Khodzhanliyazov) Rayons, where non-plan construction has cost 1.2 million rubles, whereas the plan for building up the rayon centers was fulfilled by only 50--70 percent.

As a check-up has demonstrated, just during the last 3 years in the republic more than 900 non-plan facilities were built with total outlays of more than 83 million rubles--primarily in rayon centers and in small towns and, as a rule, with the ancillary support or even at the direct initiative of the local organs of authority. The Central Committee and the government of this republic have instituted order in this matter and have punished the guilty persons. The ispolkoms must tighten up their monitoring controls over capital construction and exclude the possibility of any future repetition of even isolated instances of such facts.

It must be said that gross violations of plan discipline have also occurred in other sectors of the national economy, especially in industry. In recent times, thanks to targeted work under the direction of the CPUz Central Committee, there has been a significant reduction in the number of such gross violations as altering the plan assignments and transferring them to later quarters and months. However, this problem cannot be considered as completely solved.

Such a blameworthy practice still takes place at certain enterprises, above all, because of a lack of the necessary monitoring controls by the ispolkoms of the local Soviets. On several occasions last year plans were altered at the Chirchik Electro-Chemical Combine, Almalyk Chemical Plant, Fergana Chemical-Fiber Plant, the Andizhan Elektrodvigatel Plant, and the Samarkand Krasnyy dvigatel Plant.

Attempts to "adjust" the approved plans have also taken place this year at enterprises of the food and light industries, the fruit and vegetable industry, in the agricultural equipment system, and at certain associations under union jurisdiction. This has become possible because the rayon, city, and oblast Soviets have not yet taken an active position with regard to rooting out this vicious practice; they frequently limit themselves to merely stating the facts instead of probing deeply into the reasons for the disruption in

carrying out the plans and taking measures to decisively strengthen plan discipline.

In raising the level of economic work and strengthening plan discipline, an important role has been given to the planning organs of the local Soviets. During the last few years, thanks to a great amount of attention and aid from the CPUz Central Committee and the republic's government, there has been a considerable strengthening of the oblast, city, and rayon commissions, the number of their workers has increased by 680 persons, and the qualitative make-up of the personnel has been improved. The official staff number of the rayplans [rayon planning commissions] has been brought up to 4 persons, while that of the gorplans [city planning commissions] has been increased to 5 persons. Most of the employees in the local planning organs have a specialized economic education. The republic's Gosplan, for its part, is rendering a good deal of practical and methodological aid to the gorplans, rayplans, and obplans [oblast planning commissions] in planning the development of agricultural production, culture and education, housing and community services, as well as other segments of the comprehensive plans, and improving the placing of monitoring controls on their performance. This work will likewise be continued in the future.

Nevertheless, there are still a number of shortcomings in the work of the gorplans and rayplans. Chief among these is the non-comprehensive approach to the development of territories, insufficient control over the production activity of enterprises and organizations of Union-republic and Union jurisdiction. Often the local planning organs limit themselves to operational work, failing to manifest the necessary principles and exacting standards in questions of the effective development of the economy, as this is provided for by the statute on gorplans and rayplans.

All too frequently the directors of the planning commissions are charged with duties and functions which are not properly their own; they are sent on long business trips as plenipotentiaries, and this hampers them in carrying out their own direct work. Thus, the chairman of the Kitab Gorplan has been burdened with the problems of collecting scrap metal, distributing material resources, controls on the work of the gorkomkhoz, the truck center for the city's trash and garbage collection, and the commission for the struggle against alcoholism. The chairman of the Karshi Gorplan runs trade and public-dining facilities, savings banks, and subsidiary farms; he is also responsible for the processing of food wastes.

Functions which are not properly the business of the directors of the planning organs have likewise been imposed on the chairmen of the planning commissions of the Shumanayskiy and Novbakhorskiy Rayons, the cities of Fergana and Margilan, and a number of others.

Testimony concerning the necessity for an abrupt restructuring of planning and economic work in the localities and a strengthening of plan discipline is provided by the fact that, according to the results of 4 years, there has been a failure to fulfill the assigned tasks of the five-year plan by 38 rayons, 26 cities, and 347 enterprises. A specific and business-like analysis of the state of affairs with regard to the fulfillment of the plans in each rayon,



city, enterprise, and farm, the adoption of effective measures for eliminating the lag--this is the main, urgent task of the local planning organs and the ispolkoms of the Soviets of People's Deputies for the present day.

In responding by deeds to the mobilizing decisions of the Extraordinary March Plenum of the CPSU Central Committee, hundreds and thousands of the republic's labor groups these days are making a worthy contribution to fulfilling the plan and the socialist pledges of the culminating year of the five-year plan. Large tasks were also posed in the report by Comrade I. B. Usmankhodzhayev in the decisions of the 19th Plenum of the CPuz Central Committee with regard to the further development of the economy, as well as strengthening party, state, and plan discipline.

In the light of the high, exacting requirements and guided by the decisions of the 16th and 19th Plenums of the CPuz Central Committee, the republic's Gosplan and the local planning organs have launched work on a draft plan for 1986 and the 12th Five-Year Plan; these will provide for the maximum use of all reserves and possibilities for speeding up the republic's socio-economic development, the growth of the effectiveness of public production, and increasing the prosperity of the population.

The upsurge in the work of the Soviets to a qualitatively new level, the strengthening of plan and state discipline, will be a guarantee of the successful forward movement of this republic in all segments of economic and cultural construction, a worthy greeting to the 27th CPSU Congress and the 21st CPuz Congress.

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